Professional Amiga User MAGAZINE

July, 1990
Volume 1 Number 1
A Gareth Powell Publication
$5.95 *RRP

VICTOR

Produced using the Commodore Amiga 2000, ASDG Professional Scanlab and Sharp JX-300 Scanner

Amiga 3000
First Impressions

Evaluation
AmigaVision

Digitising
Front Projection

Workbench 2.0
Full Preview

Bars and Pipes - In Depth View

Wordprocessing - User Profile by Kay Stammers



* Recommended Retail Price Only

AMIGA

Amiga 2000, 2500, 3000, 4000 Specialists

We now have available a large range of Amiga hardware products at very competitive *Premier issue* pricing.

COMMODORE **GVP**

Amiga 2000 rev 6.2 (5 only)	**$ 1899**
Amiga 2500 16 Mhz with 3Mb RAM 40 Mb Hard drive and 68020 + 68882 co-processor (2 only)	**$4499**
1084S Stereo monitor	**$449**
AT Bridge board	**$1349**
XT Bridge board	**$749**
2058 2Mb RAM board with expansion to 8Mb	**$949**

ACCELERATOR BOARDS

2630 - 68030/68882 25Mhz with 32 bit RAM

2Mb Version **$3075**

AMIGA 2000 Acessories

40Mb GVP/Quantum hard card with 2Mb RAM option	**$1299.00**
80Mb version of above	**$1799.00**
105Mb version of above	**$1949.00**

ACCELERATOR BOARDS

IMP 3001 kit 68030 + 68882 28Mhz and 4Mb 32 bit RAM	**$CALL**
IMP 3501 kit 33Mhz	**$CALL**
IMP 4001 kit 40 Mhz	**$CALL**

OPTIONS:

- **up to 8Mb RAM**
- **up to 80Mb Quantum AT Hard Drive**

Flicker Fixer	**$899.00**
NEC 3D Multisync	**$999.00**
44Mb hard Drive kit	**$999.00**
CA 880 + A501 RAM expansion	**$199.00**
2010 3.5 inch internal drive	**$199.00**

Amiga 2000 GVP tape backup units and removable hard drives are now available. CALL NOW!

Busi-Soft Computers

PS

BOX HILL 618 Station St PH: (03) 890 8900

Frankston 20 - 22 Young St PH: (03) 770 1717

orders only (008) 032 085 FAX: (03) 738 7024

System 3

3 simple steps to computerise your business

3 Simple ways to improve your business efficiency.

3 simple reasons to buy 3

1. User Friendly Software — You don't need to be an accountant.
2. User Friendly Price — Unbelievably only $129.00.
3. User Friendly Supplier — Hot-line service and help number (008 227 465).

System 3 ACCOUNTING

It's hard enough nowadays to make money, let alone control it. Accounting packages generally have been either too simple to be useful or they are too complex to be learnt quickly enough to be economical.



System 3 HAS CHANGED ALL THAT!

The program consists of Debtors Ledger, Invoicing, Statements, Cashflow Controller and Inventory Controller. The system uses single entry accounting, whereby entering an item into an invoice automatically decreases the stock quantity of that item, as well as adding the value of that item to the customers account. The Cashflow Controller can also extract the invoice value and add it to the Sales category for sales analysis.



Full report facilities are available, and the program can be set up for ANY printer, including lasers and daisy wheels.



System 3 as easy as falling off a log, but nowhere near as painful!

"Other great DIGITA products for your Amiga are:
DG CALC — a brilliant spreadsheet, HOME ACCOUNTS, and DAY BY DAY — a great planning programme."

Available From:

Computer Spot (All Branches) Grace Bros., Myer, Harvey Norman, John Martins, Harris Scarfe, Maxwells Office Equipment, Midi Mouse Computers and all good computer retailers.

Pactronics
The user friendly company

For your nearest retailer please contact:

N.S.W.: Pactronics Pty Ltd, 98 Carnarvon Street, Silverwater (02) 748 4700
VICTORIA: Pactronics Pty Ltd, 51-55 Johnston Street, Fitzroy (03) 419 4644
QUEENSLAND: Pactronics Pty Ltd, 12 Stratton St, Newstead 4006 (07) 854 1982
SOUTH AUSTRALIA: Contact N.S.W. or Victoria Office
WESTERN AUSTRALIA: Pactronics Unit 13, 113 High Rd, Willeton 6155 (09) 354 1122
TASMANIA: ESP Marketing, 52 Elphinstone Rd, Mt Stuart 2000 (002) 78 1606

A Gareth Powell
Publication

Editor in Chief
Andrew Farrell

Production
Adam Rigby
Vanessa Farrell
Andrew Farrell

Office Services
Anita Karakasis

National Advertising
Manager
Ken Longshaw

Printed by
The Publications
Printer

Distribution
NETWORK

Editorial and
Advertising Enquiries
TEL 02 879 7455
FAX 02 816 4714
P.O Box 288
Gladesville 2111

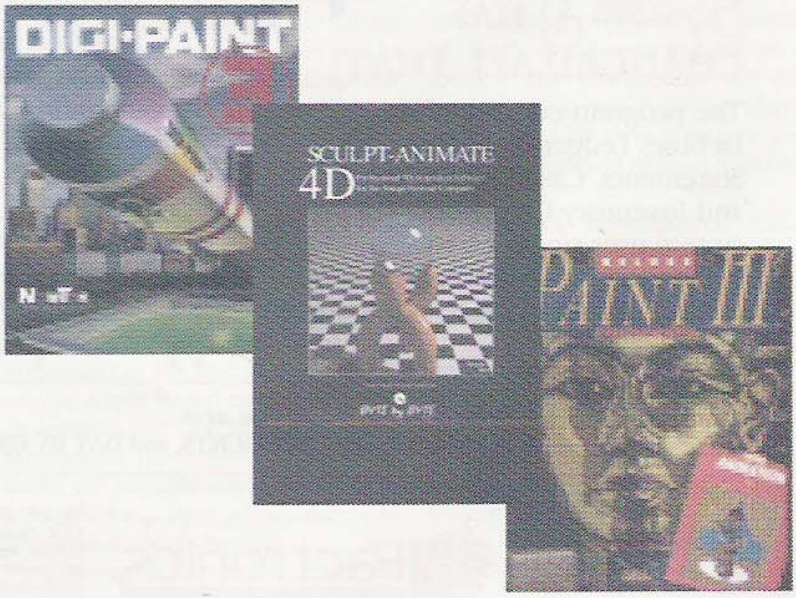
§

Professional Amiga User is an independent journal not connected with Commodore Business Machines.

Proudly created using the Commodore Amiga

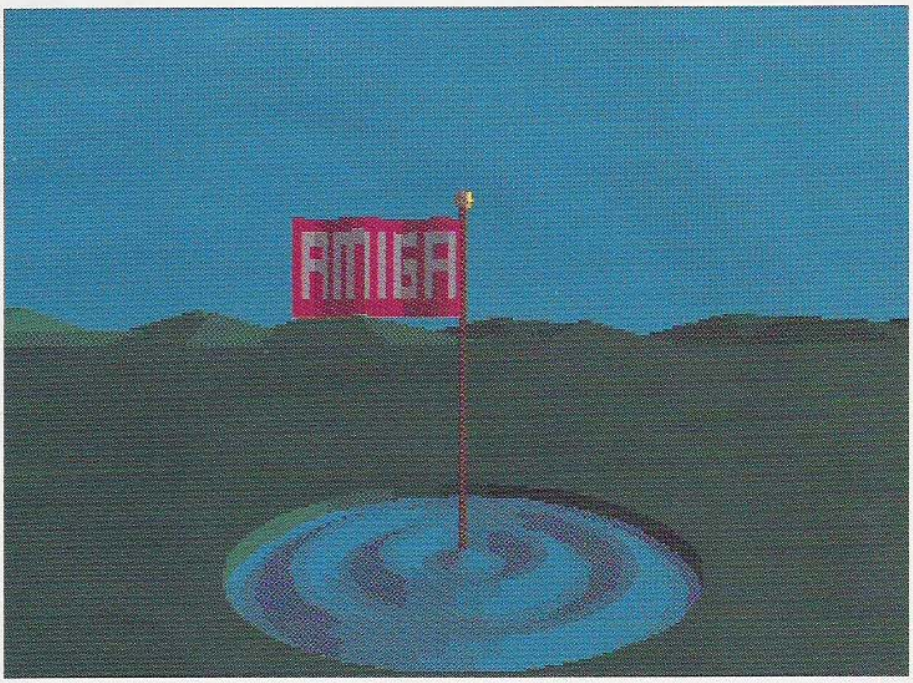






First Word

By Andrew Farrell



Earlier this year, Amigo-Times - a Canadian magazine which many of you may have read and admired, sadly fell by the wayside and ceased publication. Much credit must go to what the publisher/editor Eyo Sama and his team acheived over the nine issues published. They proved beyond doubt the Amiga was capable of producing a high quality colour desktop published magazine.

Inspired by their results, our enthusiasm to produce an Australian Amiga magazine prompted us to try and make it happen.

Our publisher, Gareth Powell, is a man not easily swayed by the whims of a young magazine editor. And rightly so. Memories of a flickering *Professional Page* screen, and slow page manipulation speeds, were still clear or should I say flickering in the front of his mind.

However, after taking a second look at what the Amiga was now producing, and the quality of VGA output thanks to the flicker fixer card, his face brightened. Further discussions with Commodore, and a lunch later with Gareth, and *Professional Amiga User* magazine was born.

Many remained convinced it couldn't be done. There were moments, such as the day our 136 Megabyte hard drive collapsed in a mangled heap, when we too wondered as to the viability of this publication. Nevertheless, we pressed on, and many long nights later our first issue was downloading to the linotronic bureau.

In a new magazine there is always much room for improvement. We are only beginning to realise the potential of the Amiga as new hardware and software arrives and is put to use in the production process. Any suggestions, criticisms or virus infected disks are welcome. All will be carefully considered.

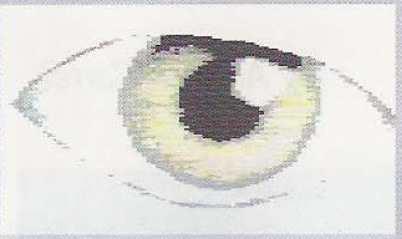
Professional Amiga User magazine is for serious users of the Amiga, (including those who operate from a spare room at home). The Amiga is being used more and more as a powerful creative tool in animation, desktop publishing, multimedia and video production. *Professional Amiga User* has employed the talents of various and assorted people who are somehow themselves Professional Amiga users. These people are committed to making the talent of the Amiga known.

However, we need more who can share their wisdom with our readers. Contributions on disk or by modem are eagerly accepted - graphics can also be included.

Commodore have some truly incredible products being released over coming months. You'll read about them in these pages. Amiga is getting people ideas off the ground. Professional Amiga User magazine is one of them.

❑

Contents



AmigaVision

Multimedia comes of age. Commodore's first serious software solution - a taste of things to come.



10

Amiga CDTV
Andrew Farrell
8

"The only thing holding me back is my wordprocessor"
Kay Stammers
17

Dr T's puts music into print
Eric Holroyd
22

Playing it safe - Filtered Power Supplies
Alexander Lambert
30

SMPTE Extra
A guide to professional Amiga solutions
48

Preview

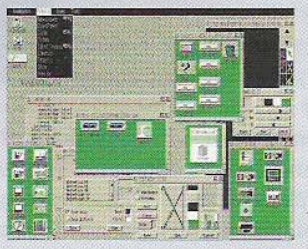
First hand impressions of the new Amiga 3000.



8

Workbench 2.0

New preferences, windows and fonts - but is it compatible?



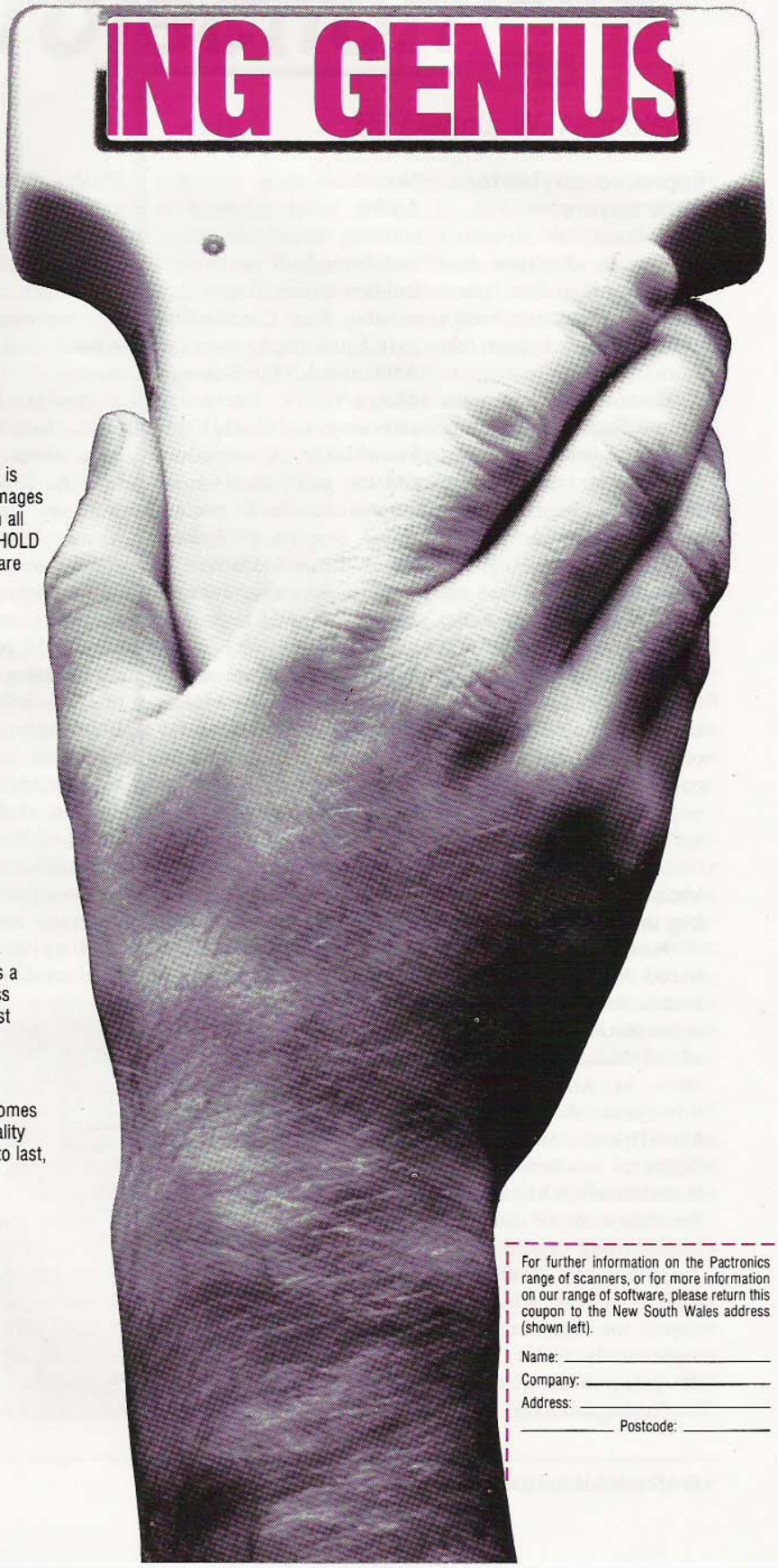
13

Guest Writer
Author of Bars and Pipes Melissa Jordan Grey provides an in-depth look computer music and getting the most out of Bars and Pipes
40

Regulars

Click here First 6
On Screen - *Front Projection* 59
Telecomputer - *An introduction* 26
Software on the cheap - *MyMenu* 54
Doctor AMI - *DIsk Repair* 28
Disk Management - *A Hard Assignment* 34
Desktop Video - *MicroIllusion EDLP* 56
Last Word - *Mac Threat* 64

A SCANNING GENIUS



Cameron Type 10 Hand Scanner

Pactronics are pleased to announce the release in Australia of the Cameron range of hand held scanners for the Amiga. The TYPE 10 is a 105mm wide black and white scanner, with 100-400 Dots Per Inch variable resolution. It is ideal for grabbing graphics for use in either word processing or DeskTop Publishing. It is supplied complete with a comprehensive manual, HANDY PAINTER graphics package and HANDY READER **Optical Character Recognition** software. This last package can convert a scanned text image into an ASCII file suitable for D.T.P. or word processors. It comes pre-trained for most common fonts, and can even be trained to recognise Amiga graphic fonts printed onto a dot matrix printer!

Cameron Type 6 Colour Scanner

Now you can really let your imagination run wild! There is simply no faster or easier way to get vivid, full colour images in to your Amiga. The TYPE 6 hand scanner operates in all Amiga graphic modes, even EXTRA HALF BRIGHT and HOLD AND MODIFY (4,096 colours) modes. Scanned images are saved in standard IFF format, ready for use in your applications. Now, your imagination is your only limit!

IMG Print Head Scanner

If you're operating your Amiga on a lower budget, there's still a scanner for you. The IMG SCAN actually uses your existing printers mechanism as its means of scanning a page. The device consists of fibre optic cables that attach to the printer head. The accompanying software "drives" the printer head to and fro, whilst the optic cable "read" the image as it passes under it. It's simple, efficient and economical.

Graphics Mice

Winner M-4 Mouse (Top of the Range)

Your search for a better Amiga mouse is over! The M-4 mouse is the best quality mouse you can get. It features a more ergonomic design, proper microswitches and brass rollers. No more dead buttons, no more rusty rollers; just smooth, precise control.

Genius GM-7E Mouse (Budget)

From one of the worlds largest mouse manufacturers comes one of the worlds best mice. Ultra high construction quality ensures an accurate response, and a design thats built to last, not to break, all at a price that's impossible to beat.

Pactronics

"The user friendly company"

For your nearest retailer please contact:

N.S.W.: Pactronics Pty Ltd, 98 Carnarvon Street, Silverwater (02) 748 4700
VICTORIA: Pactronics Pty Ltd, 51-55 Johnston Street, Fitzroy (03) 419 4644
QUEENSLAND: Pactronics Pty Ltd, 12 Stratton St, Newstead 4006 (07) 854 1982
SOUTH AUSTRALIA: Contact N.S.W. or Victoria Office
WESTERN AUSTRALIA: Pactronics Unit 13, 113 High Rd, Willeton 6155 (09) 354 1122
TASMANIA: ESP Marketing, 52 Elphinstone Rd, Mt Stuart 2000 (002) 78 1606
NEW ZEALAND: Micro Dealer NZ Ltd., 60 Terakau Drive, Pakuranga, Auckland. 274 0757

For further information on the Pactronics range of scanners, or for more information on our range of software, please return this coupon to the New South Wales address (shown left).

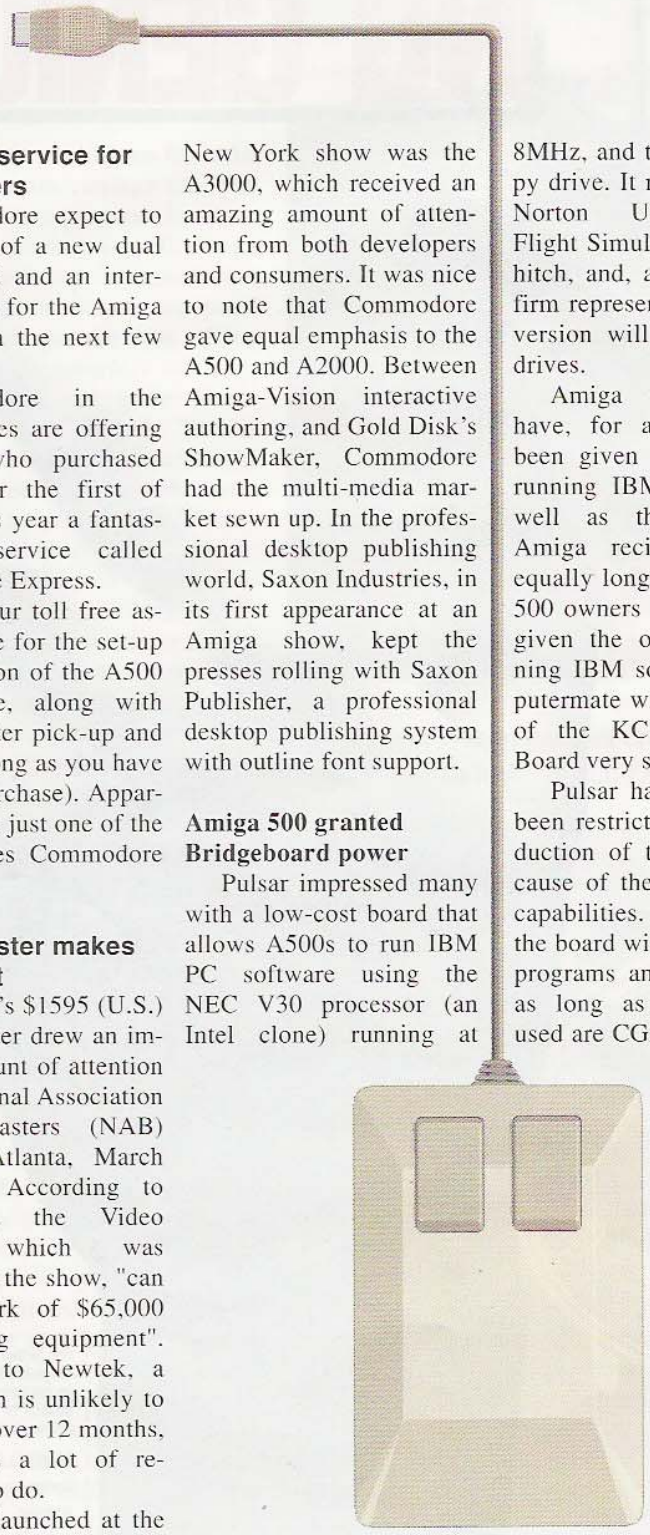
Name: _____

Company: _____

Address: _____

_____ Postcode: _____

Click here first



Improved service for A500 buyers

Commodore expect to have stock of a new dual serial board and an internal genlock for the Amiga 2000 within the next few weeks.

Commodore in the United States are offering residents who purchased A500s after the first of January this year a fantastic new service called Commodore Express.

A 24 hour toll free assistance line for the set-up and operation of the A500 is available, along with free computer pick-up and return (as long as you have proof of purchase). Apparently, this is just one of the new services Commodore will offer.

Video Toaster makes big impact

NewTek's $1595 (U.S.) Video Toaster drew an immense amount of attention at the National Association of Broadcasters (NAB) show in Atlanta, March this year. According to NewsBytes, the Video Toaster, which was launched at the show, "can do the work of $65,000 broadcasting equipment". According to Newtek, a PAL version is unlikely to appear for over 12 months, as there is a lot of redesigning to do.

* Also launched at the New York show was the A3000, which received an amazing amount of attention from both developers and consumers. It was nice to note that Commodore gave equal emphasis to the A500 and A2000. Between Amiga-Vision interactive authoring, and Gold Disk's ShowMaker, Commodore had the multi-media market sewn up. In the professional desktop publishing world, Saxon Industries, in its first appearance at an Amiga show, kept the presses rolling with Saxon Publisher, a professional desktop publishing system with outline font support.

Amiga 500 granted Bridgeboard power

Pulsar impressed many with a low-cost board that allows A500s to run IBM PC software using the NEC V30 processor (an Intel clone) running at 8MHz, and the A500 floppy drive. It ran Lotus 123, Norton Utilities, and Flight Simulator without a hitch, and, according to a firm representative, a later version will support hard drives.

Amiga 2000 owners have, for a long while, been given the option of running IBM software as well as the traditional Amiga recipes. For an equally long while, Amiga 500 owners have not been given the option of running IBM software. Computermate will have stocks of the KCS Power PC Board very soon.

Pulsar have apparently been restricted in the production of this board because of the Amiga 500's capabilities. They say that the board will run graphics programs and games, just as long as the graphics used are CGA or Hercules. In order to display EGA or VGA graphics, you will need some extra Amiga hardware.

The suppliers go on to say that this hardware might be in the nature of the latest Amiga graphic chip, memory expansion, and a multisync monitor. Pulsar says that their board will support as many as four disk drives, of the 3.5 or 5.25 variety, 360K or 720K. High density drives are not supported. The Amiga's serial port and parallel port are both supported, and you will be able to select a PC port which they will emulate.

For Amiga 500 users with one megabyte RAM, the board will apparently allow half a megabyte's RAM to be directly available, whilst the other half will only be available as a RAM disk. The board will run at 7.14 MHz, as it must apparently operate at a similar speed to the Amiga. This also means that the board will probably not be compatible with the 16 MHz Processor Accelerator and 68881 maths processor.

No memory chips can be added to the board, but extra memory added to the Amiga can hopefully be used as expansion memory sometime in the future. And on the subject of ex-



pansion RAM, now is the time to announce that Pulsar intends this product to be slotted into that space under your Amiga which is used to house the A501 RAM expansion cartridge.

So it's either PC board or 512K RAM expansion, not both. However, any RAM expansion which can be plugged into the left-hand slot on the Amiga can be used whilst the PC board is being used. The board cannot contain more than one megabyte RAM anyway, but then neither can the 8088 processor on which a real IBM PC is based.

Pulsar say that the board contains all the chips it needs, and will not require (or even allow) the addition of chips from a PC-compatible. There is no hard disk support yet, but the suppliers say that software support for the A590 hard drive will be available later this year, though if this is used, the RAM disk will probably not function.

Eventually, MS-DOS partitions will be allowed on the A590 drive. While the board will supposedly run all software (text and graphics based) without any hardware extensions, Pulsar do not guarantee 100% compatibility, especially where the parallel and serial ports are concerned, or in cases where PC software has a special protection scheme. Pulsar say that they will print documentation on all known incompatibilities.

Apparently a disable switch is not provided with the board, but will be added. As is normal for the Amiga, having more than one external drive can present problems with the power source, so Pulsar deny that power disturbances can be the fault of their board. The board will not permit the addition of any IBM hardware. A modem can be connected to the Amiga's serial port while the board is in use, but only as long as a printer is connected to the parallel port at the same time! Pulsar say that this oddity is one which belongs to the Amiga, and is nothing at all to do with the KCS board.

Upgrades will become available in the future, and Pulsar has said that all the upgrades will be software based, provided to you for a nominal fee. The board will not perform simultaneously with the Amiga's functions.

We are assured that any monitor which you use on your Amiga, you will also be able to use with the board, including the television. The board will read and write true MS-DOS disks, but Pulsar say that reading errors will occur when disks are read from one computer to another (though this has always been a problem with any computer).

Amiga owners will no doubt be joyful to learn that Pulsar guarantees their board to be fully compatible with that full, rich IBM sound!

Another incompatibility which has been admitted by Pulsar is that, due to the new video chip installed in the new Amiga 500's, some of the software upgrades will present problems in the area of graphics. This, of course, will not be a problem to those who own one of the new computers, but if you don't have one of these, you will have to buy one. Or otherwise, Commodore will of course provide you with the new chip.

Any Amiga extras which you have slotted into your machine will apparently be entirely safe with the PC board - but, once more, Pulsar does not guarantee this 100% because there are many poor-quality Amiga add-ons being sold. Pulsar are pleased to declare that the KCS board will run Lotus 123 version 2, and will also support the 68010 processor update. Pulsar have no plans to make the board compatible with the AT; they say that it is probably impossible to do so anyway.

❑

I want my

If the clutter of expansion boards, and unsightly dimensions of your Amiga 2000 is starting to cramp your style, feast your eyes on the sharp new lines of the Amiga 3000, as Commodore prepare to do business with their new super-machine.

Strikingly small, the tiny footprint and functional design of the Amiga 3000 are aesthetically pleasing. A quick breeze along the row of expansion sockets and peripheral ports will have you itching to hit the power button and see how she runs.

We start our guided tour at the front panel, where the internal drive awaits with an openness that invites 3 1/2 disks to leap into the mechanism and purr to life. The power button is slightly recessed at the top right. One press and within five-mississippi-seconds, Workbench appears and you're ready to click away.

Inside, the powerful 16Mhz 68030/68881 processor with two megabytes of RAM and enhanced-chip-set is waiting to do its thing. (A 25Mhz version will also be available.) The Quantum 40 Megabyte SCSI hard drive screams along silently and efficiently. With the VGA monitor connected directly to the Enhanced Display Adaptor, next to the normal RGB video port, the display is sharp and the colours strong.

A small switch disables the display enhancer (otherwise known as a flicker-fixer) for use in video modes which upset the non-interlaced rock steady display. Whilst examining the back panel, you'll also notice the external SCSI port - not that you'll need it, there's ample room to mount a second 3 1/2 inch hard drive inside.

The mouse port, and keyboard socket are happily tucked away just out of sight on the right hand side of the main unit - but they are easily accessed for quick removal, or addition of input devices.



Off with the lid, removal of which is only a little easier than the Amiga 2000, the rows of slots, sockets and custom chips unfold in a compact engineering marvel. Has this baby got expansion capabilities!

Although the number of Amiga 2000 Zorro II compatible expansion slots has been reduced to four, the necessity for them is also diminished. The slots are also ready for the new Zorro III format cards, developed especially for the Amiga 3000.

Using current technology, there is room for an additional one megabyte of chip RAM, and another five megabyte of Fast RAM.

However, with the arrival of 4 x 1Mb Chips, that total will jump up to a grand total of 18 megabytes maximum - and that's on the mother board without taking up one expansion slot! An auto-booting DMA/SCSI hard-drive controller is built in, as is the old flicker-fixer card (now compatible with genlocks), leaving the video slot free for an internal genlock.

An additional fast slot located under the 3 1/2 drive bay provides a connection point for other future expansion such as a 68040 processor. Overall the hardware is amazingly more compact than the Amiga 2000, with a lot more potential for expansion whilst maintaining a higher degree of compatability. The vertical mount for the expansion chassis, meaning boards are mounted horizontally, has enabled the small size of the main console.

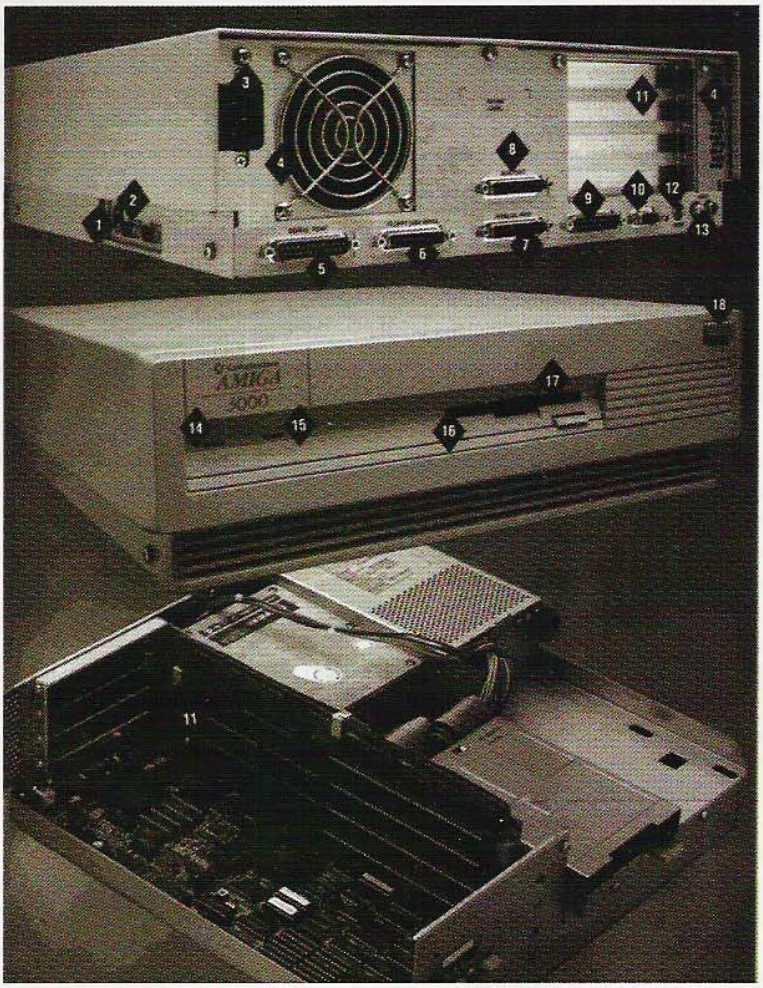
No doubt, with a larger expan-

AMIGA 3000

sion card ready to handle heavy duty networking requirements, and a larger drive bay area, for 300Mb drives and the like, you would have the beginnings of an Amiga 4000.

Documentation included for setting up comes in the form of a large quick-start brochure and an introduction to the Amiga 3000. Workbench 2.0 and 1.3 were also included. The system looks very professional, I am sure many users are waiting to get their hands on the faster version late this year. Delivery is expected in three-four months. Retail price on the 16Mhz version will be around $6000.

❑

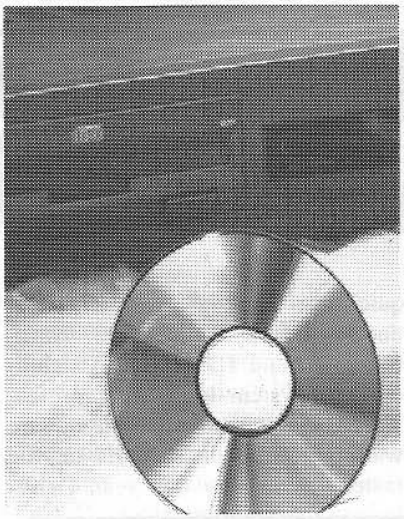


1. Keyboard Port
2. Mouse/Joystick Ports
3. Power Connector
4. Fan/Ventilation
5. Serial Port
6. Floppy Drive Port
7. Parallel Port
8. SCSI Port
9 15Khz Video Port
10. 31KHz Video Port
11. Expansion Slots Area
12 Mode Switch
13. Audio Ports
14. Power Light
15. Hard Disk Light
16. Floppy Drive Light
17. Floppy Disk Drive
18. On/Off Switch

At a Glance

68030/15Mhz
68881 Maths
Coprocessor
1 MB Chip RAM
1 MB Fast RAM
Up to 18MB
40MB Quantum
SCSI Hard Drive
Display Enhancer
Workbench 2.0

Amiga Vision



By Andrew Farrell

As an interactive mutli-media solution, AmigaVision is the most significant contribution toward the future success of the Amiga as a serious machine yet.

Creating presentations - interactive or passive, producing video titles requiring sharp looking wipes and fades or providing information at booths or to a student - AmigaVision is the fastest, simplest solution.

Adam Rigby and I recently produced five interactive presentations using *AmigaVision* for the Commodore stand at the Sound and Vision Show.

Each filled around seven megabytes of disk space, and included digitized voice prompts, SONIX, MIDI or Digitized music and a large number of stills, spiced up with the occasional animation.

The Amiga 2000 which presented the show contained three megabytes of RAM. This is no extravagance. *AmigaVision* needs plenty of memory - at least two megabytes is essential.

The user interface is pleasing to operate. In essence, you have complete control over the logical flow of a series of audio/visual elements. You can keep it as simple as you like, or delve into the various requestor settings deeper and deeper, tweaking the various gadgets and sliders until the music, graphic or animation appears just the way you want.

User Interface

In the past, products with these sorts of capabilities required the use of a script language or peculiar combinations of gadget settings and command lines. All too often, programs which tried to be easier to use did so at the loss of power. I was surprised to find that despite the deceptively simple method used to build your presentation, *AmigaVision* has not sacrificed any significant degree of power.

An entire program of events is designed using icons and a grid where time flows along the y-axis (down the screen) and levels of activity are nested along the x-axis (across the screen). Slide bars, and sizing gadgets enable you to alter how much you can see of your creation at one time. Multiple windows may be open, and elements can very easily be copied and pasted between and within a presentation.

Each icon represents part of the logical flow of events within a presentation. By double-clicking on an icon you have dragged into position, additional settings may be adjusted to customize the appearance of a graphics - for example, the manner in which it wipes onto the screen.

Occasionally, editing seems very tedious, especially when making small adjustments over a large number of presentation elements. Our other problem was the fact we were using a Beta version, which tended to crash occasionally when saving to disk. Fortunately, *AmigaVision* makes a backup copy of a file before saving over the top of it. You can then revert to your most recent save and resume editing.

AmigaVision gives you the option to slant your presentation toward a database like interface, with complete support for *dBase* compatible file structures, field and record input, along with plenty of program control at each level to handle variables, user input and interaction between the various elements.

Interaction

Keyboard and mouse input can be used to trigger the next event. These wait points can be made to time-out after a certain amount of time. You can create menu screens with active buttons on which the user must click. These are called hit points, and are defined using a separate editor.

Each hit point can generate a different result, which is passed to the next icon - for example, an IF... THEN conditional jump, which will move to a different part of the presentation if the condition is true. A full set of functions and operators are available to make the testing of conditions possible.

This ability is what makes *AmigaVision* truly interactive - the program can ask for input, and then change what you see depending on the result. The possible applications for this type of display are endless.

Animation

Support for animations recorded in ANIM OPT 5 is included. This is

the latest, most popular format, which includes the ability to change palettes in mid-play and vary the timing between frames throughout the animation.

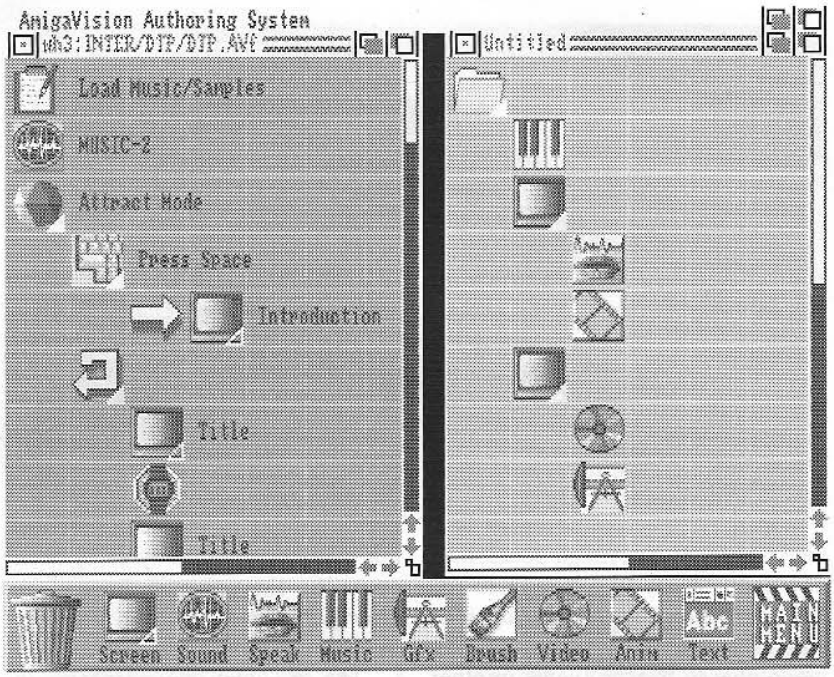
So far, I only managed to get looping animations to work properly. An animation can be run and then interrupted down the track. However, in many instances, you only want the animation to run once, and then the next screen should appear directly after the last frame. The animation would need to be preloaded, so the user isn't left waiting, and the next screen needs to be in memory too, for a smooth transition. This is all possible - although unlike Gold Disk's *Show-Maker*, preloading is not automatic.

The problem is that *AmigaVision* doesn't consistently stop at the same frame of your animation - sometimes it ends on the first and sometimes on the last frame. Not good enough! Let's hope this problem is fixed before the official release.

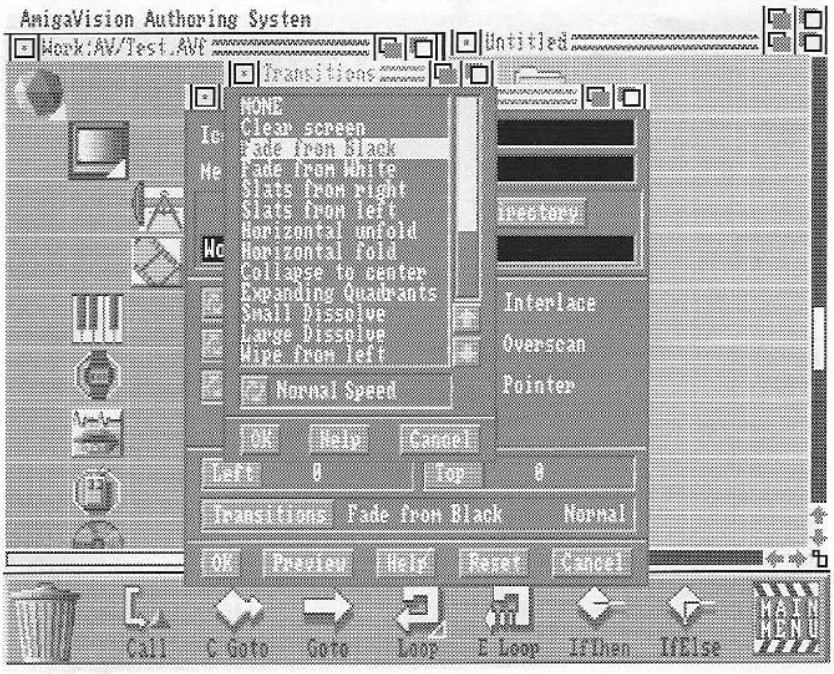
One of the functions in the various flow-control statements in VIDEO(), which supposedly returns the current frame the animation us up to. I tried very hard to make this work to overcome the last frame/first-ending dilemma. Although it worked sometimes, once again it was not consistent.

So in the area of animation, *AmigaVision* scores a big "use sparingly", which is probably just as well, as animations tend to be too big if they are to be smooth enough to look professional.

AmigaVision needs more attention in this area - it should at least have as does *Deluxe Video* and *Can-*



Top Right - *Presentations are logically structured - conditional jumps are allowed. The window at right contains often used elements, keeping them on hand for quick insertion as required.*
Bottom Right - *A large array of possible transitions between images of the same resolution.*



Do, the ability to show brush-Anims and to move these about the screen. Brushes can be display on a graphic - and there are some very powerful function in this area for overlaying multiple brushes.

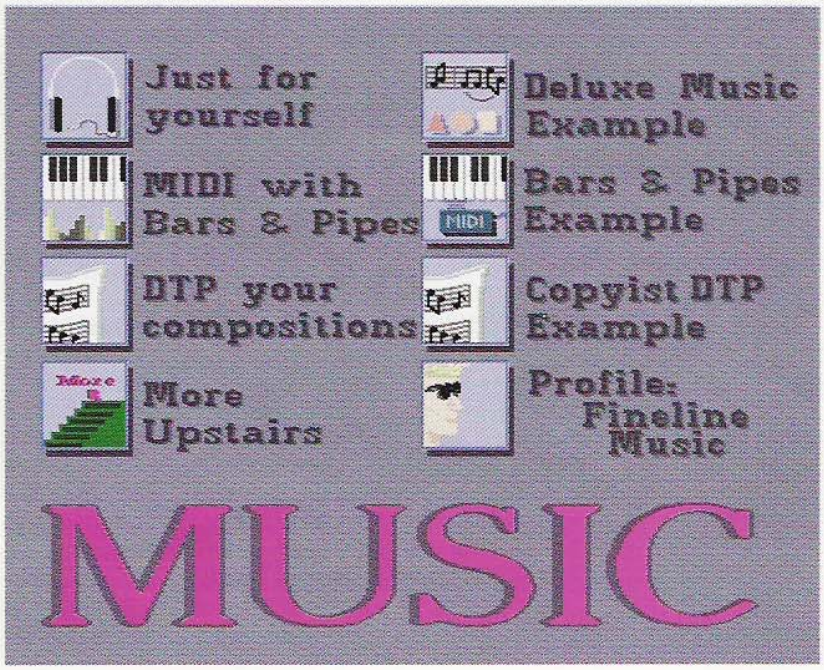
Bells and Whistles

Open architecture software is a new feature many Amiga developers now include. By this, I refer to the ability to cross the boundaries of what a particular product can do by being able to trigger events in other programs to produce the desired effect.

Three options are open to the *AmigaVision* user. The first is Video Disk. Not having seen a video disk work with *AmigaVision*, we can only take Commodore's word that it is a good and powerful function. A large number of players are supported, with complete RS-232 control of all functions.

The second is AREXX - an interface for sending commands to other programs running in the background, so long as they too have an AREXX interface. These commands, written in script format, can perform many of the same functions that you could normally carry out if operating the program in question directly. Of course, this would require plenty of memory.

The last, and one which we invoked, is the Execute option - to execute another program from either the Workbench or CLI. For example, you could RUN a PLAYANIM program from the CLI to display an animation format *AmigaVision* cannot normally play - such as *Sculpt* format. We used this option to play *SoundTracker* ,music files.



Conclusion

Of the few limitations of *AmigaVision*, most can be overcome. One very annoying problem I discovered was the inability to disable the right mouse button, which aborts a presentation. With mouse interaction so high on the list of interactive priorities, this seems like a fairly major oversight.

There is a mass of power in there for tight presentations of primarily stills. When it comes to user interaction, *AmigaVision* is a dream to use - it is a quantum leap from the clumsiness of *CanDo*, and more powerful than *Deluxe Video*. *ShowMaker* has no interactive features.

Overall, *AmigaVision* is a well designed and executed package with excellent documentation and a solid reliable approach to interactive presentation design. With a little attention to animation, it could well stand to be the number one Amiga multi-media product. Right now, *Showmaker* would still easily win in the animation department.

Commodore will be releasing *AmigaVision* in the next three months. Recommended retail price will be around $199.00.

❑

Left - *A powerful editor for adding hot-spots or hit-points to an IFF menu back-drop is included. Responses to a selection can be defined and additional actions including playing a sound or simply high-lighting the button added.*

Workbench Too!

By Andrew Farrell

Why stop at an Amiga 3000, when you can have a new Workbench too?

From the three dimensional relief windows, to the array of classic fonts, background patterns and enhanced menu options - what could have been called version 1.4 has demanded more - Commodore marketing have decided this is definitely version 2.0.

Workbench is the interface between you and your application software, files and documents, tools and projects. From Workbench you launch programs, carry out housekeeping functions and organize yourself and your work.

So, the very look and feel of this interface is of utmost importance. You have to deal with it the very first time you switch on your machine - which for many of us is every day. No doubt, the old blue and white colours and chunky icons of Workbench 1.3 sent you clicking directly to preferences, and on to a more tasteful set of colour slider settings. However, there was little you could do about the rest of the show.

Some of your drawers are probably looking pretty full. Have you snap-shot all those icons into a neat and tidy order lately? Probably not - the idea of shift-clicking on several dozen projects does not enthuse even the most avid user.

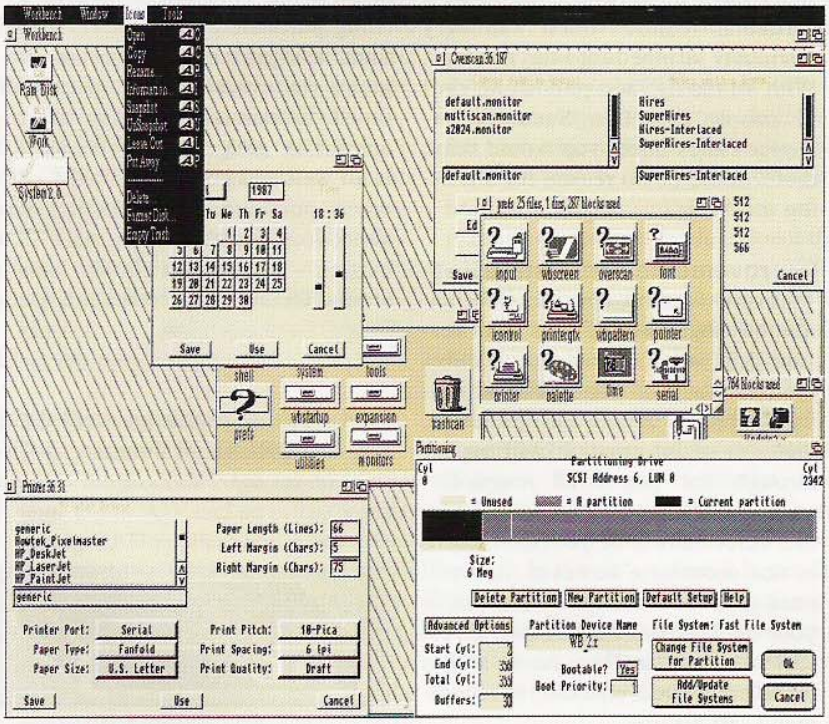
For you people, Workbench 2.0 is a fresh breeze. Workbench 2,0 has a neater, tidier appearance, a more serious approach, a more pleasant array of definable variations, creating a whole new look and feel. It's so good, you'll probably spend the first two hours tweaking the sliders and selecting gadgets to give your machine a completely individual appearance.

Trash your Shell!

No more is there any need to revert to the Shell or CLI for tricky adjustments, file copying or setting up hard drives. No more will you run Diskmaster every time you power up. Workbench 2.0 provides low-level power too.

Files can be viewed in windows by name, icon, size or date. Workbench 2.0 can show only those with icons, or all files contained in a drawer or on a disk - making temporary icons for those without. You can drag these makeshift icons from drawer to drawer, rename, view, duplicate or delete them - all of which you could not previously do directly from Workbench.

A new drawer can be created from a Workbench menu in a flash - you don't need to wait for a copy of the empty drawer to appear. Icons and windows are rendered very differently, and the gadgets and slider look completely different. The front to back gadget is now just a bring to front gadget. When the window is at the front already, the same gadget makes the window disappear - remembering its contents. Next time you open the same window during



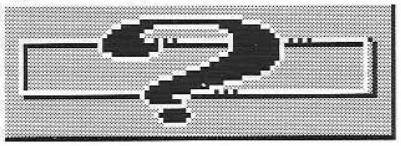
the current Workbench session, it will appear instantly, without reference to disk. This feature is ideal for hard drive users.

Another gadget just to the left will do the same thing, but the window simply shrinks down to the smallest possible size, and remains visible on the Workbench. Some tools such as the calculator can also be shrunk. Very handy for keeping your Workbench uncluttered.

New Fonts and New Menus

The Workbench pull-down menus have been seriously revamped. The fonts in these menus, below icons and in the CLI can all be separately defined, giving you the option to escape from the clutches of eight-point Topaz forever. Try Helvetica and Times for a smarter, more readable look. The colours, and background colour for icon names may be custom-defined, as can a pattern for all windows or the workbench.

Some existing applications will have difficulty dealing with all these new fonts, of different sizes and proportions, appearing in menus. Whilst the menus may continue to function, a few we tried become cluttered and difficult to operate. It appears many programs have made



no allowance for fonts any size apart from our old friend, eight point Topaz. No doubt, developers will have to make some quick upgrades to popular products to ensure full compatability.

New Documentation

Commodore have turned over a new forest. The manual to Workbench 2.0 is brilliant. It looks like real documentation, and it is easy to follow. The five centimeter thick three ring binder contains a guide to all the new features in Workbench along with a full explanation of using AmigaDOS, AREXX and the various Extras on Workbench.

An impressive document, which is thoroughly indexed and referenced. There are plenty of screen examples, and explanations for exceptions to the rule - such as hard drive users. Its a real shame they didn't desktop publish the document on the Amiga - some of the screenshots have an arrow pointing to a particular feature which was very obviously stripped into the final art. With all the desktop publishing skill of people like Eyo Sama of ex-AmigoTimes fame, you would think there would be no reason for not using the Amiga.

Improvements and Installation

There was no specific information on what was different from version 1.3, what upgrade procedures are necessary, or what incompatibility problems may exist. As usual, that sort of information will appear through the pages of magazines such as ours. At this time we know that reformatting of your hard drive is not necessary, however you will need to make some small changes to your mountlist. Workbench 2.0 is still officially in Beta form, and is therefore a little unstable to recommend serious use.

Preferences

Eleven different preference editors are included, each of which provides control over a specific group of settings. Many favorite public domain utilities will be made obsolete because of features activated by these programs. These include mouse acceleration, Workbench patterns, larger-than-displayable sized screens and function key settings.

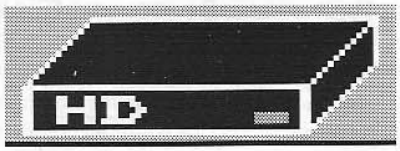
The jumbo-sized screens possible under 2.0 allow programs such as Professional Page to take advantage of the much larger Workbench-screen area and display an entire page at 100% magnification.

Conclusions

Both Commodore and software publishers have the unenviable task of ensuring compatability with existing software is achieved. At this time, a significant number of programs we tested failed to operate, or failed to correctly display all requester or gadgets. Workbench 2.0 is all well and good, if it works with other software. Commodore has about four months left to make that happen - version 2.0 should launch around October-November this year.

❑

A separate article on AmigaDOS 2.0, and AREXX will appear in future issues of Professional Amiga User.



Amiga CDTV

By Andrew Hanson and Andrew Farrell

Combine the innards of an Amiga 500 with a Sony-Phillips CD-ROM and you have the new Commodore CDTV, launched recently in Chicago, in the United States.

Commodore Dynamic Total Vision (CDTV) brings advanced interactive multi-media technology within the realms of affordability.

Compact disks have the amazing ability to store over 550 Megabytes of information on a platter barely large enough to use as drink coaster. Apart from storing masses of raw data, such as an encyclopedia or census results, few really innovative uses for this media have been launched in a usable, affordable format - apart from playing music. Compact video disks are starting to appear, but only in small numbers, and they remain an expensive item. CD-ROMs players and the associated disk are very costly, and require additional hardware to interface with a PC.

CDTV is different. Commodore have packaged a complete solution into one unit which will cost under $1000 (U.S.). With the power of the Amiga and the resource of graphics and music stored on compact disk, myriads of electronic interactives could and will, according to Commodore, be developed in time for the launch date.

No doubt the CDTV will also be released without the Amiga 500, ready to connect to other Amiga machines. When combined with *AmigaVision* or *ShowMaker*, this facility opens a large number of doors in the areas of home entertainment, business and educational applications, not too mention a dozen hybrid hyper-media solutions.

The entire concept is yet another step toward the complete integration of the home entertainment system. From instructional programs on cooking, sports, foreign languages and special learning for children, to



sophisticated electronic games, adventures and simulations never before thought of, the CD as a storage device opens some incredibly exciting possibilities.

How fast can you interact with a CD? Well, if we're talking Amiga, we will also be talking multi-media. How fast can interactive video and audio be churned out from the CDI? Only 170K every second. (Although a 2Mb per second burst mode also exists.) Whilst this might be a reasonable speed with which to load a word processor file, it is not at all a reasonable speed with which to load moving pictures with stereo sound.

Phillips, having noted this difficulty, produced another innovative piece of technology to cope with the problem. This is a DCT (Discrete Cosine Transform) system, which will squash the interactive data into such a tiny space that sixty-five minutes of moving pictures, plus digital sound, can be stored on your CD.

Enough for half an evening's entertainment, perhaps.

We presume DCT has been implemented in some form on the CDTV. A special file system handler for the Amiga, rather like an alternative to the Fast File System, called the ISO 9660 File System is also included.

The CDTV can be expanded with a range of devices, many of them infra-red, including a keyboard and mouse. The unit will come standard with several enhancements above the usual Amiga 500 specifications. An additional 2K of non-volatile RAM will keep information such as preference settings, the system date and time safe when the unit is not switched on.

Output is available in RGB, composite PAL or Component video Y-C (S connector type for S-VHS and Hi8), RF-Modulated and an optional genlock capability. All the usual Amiga 500 ports are included such as parallel and serial ports.

On the front of the unit is a port for a 64K personal RAM card. Each user will have one. It will contain high scores, saved games, personal information, financial data, or whatever else you happen to be personally using your CDTV for.

CDTV will arrive late this year, complete with dozens of titles, lots of rave from the press and a lot of people wondering what anyone would want one for. No doubt, before too long, CDTV will be as popular as the common CD, and as used as the Facsimile machine.

Oh, yes you can play normal music CD's, as well as CD-G (music with graphics) too!

❑

SUBSCRIBE

Professional Amiga User Magazine
was originally going to be FREE.
FREE of game reviews. FREE of biased write-ups.
FREE of poor advice. FREE of all but Amiga
desktop published pages. FREE of dreary articles.
If you think it was FREE, subscribe today and tell us.
Get six issues for $29.95 - CALL 02 398 5111

"The Only Thing Holding Me Back Is My WordProcessor"

By Kay Stammers

Is wordprocessing all it's cracked up to be? Is getting started really as easy as the back of the box says?

Here's one of those rare first hand stories of a professional Amiga user who has had more trouble than you would wish on a Macintite.

Computers were totally foreign to me until about a year ago. Like microwaves, they were something I didn't understand, and didn't really want to. As a television journalist and scriptwriter, I was perfectly happy tapping out my work on an electric typewriter, albeit with frequent replacements of the correction tape ...until I, too, caught the bug. And life was never the same!

My husband Tristan bought us the Amiga 500 as a sort of wedding present. He said it would revolutionise my writing (which it did), but I realise in retrospect it was merely an excuse for him to be able to play games (he has a Mac at work, and does most of his serious writing there). Racing cars, motorbikes, aeroplanes - they would keep him spellbound in our study for hours.

In the meantime, I poured over my manuals, snatching time in between F16's and Ferraris to experiment with Workbench and *Textcraft Plus*, the program which came with the Amiga. For a journalist new to word-processing, this was magic - although Tristan saw *Textcraft Plus* as slow, simplistic, and beneath him - or me, for that matter.

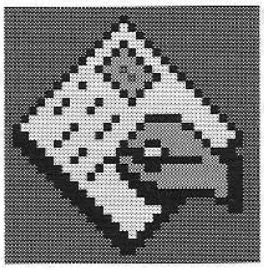
Displaying typical boyish impatience, he came home one night with a new word-processor (which he said looked a lot like his favourite Mac program, *Word*), called *Excellence!* (Version 1.11). The next week he was carrying an external disk drive, and shortly afterwards, a 512k expansion (despite what the manual said, *Excellence!* refused to open with only 512k).

More about *Excellence!* (which we renamed *Pestilence!*) later. But for the time being, I ignored Tristan's pleas to change, resolving to do my apprenticeship on the less complex *Textcraft Plus*.

The timing was perfect, as I had just started writing a children's book, which Tristan was to illustrate. We had carefully set up preferences and printer dip switches (we had bought a new Brother M-1224L recommended by the computer shop), and everything was fine - until we started printing out more than one page at a time.

The printer went crazy. After printing one page correctly, it would spew out page after page of blanks. In order to print Page 2, we would have to ask it to print "From Page 2 to Page 2" in the print requester. Tedious when you have to print a 30 page document one page at a time!

I rang the shop - they were less than helpful. I rang Brother - they said it must be the fault of the program. After painstakingly going though manual instructions, preferences and dip switches again, and finding no flaws, I decided it was time to make the switch to *Excellence!* - and get some work done!



Famous last words. *Excellence!* certainly looked terrific after *Textcraft Plus*. All slick and brightly coloured, with thesaurus, footnotes, multiple documents, glossary and many other professional features. But its idiosyncrasies soon made *Textcraft* look like a reliable old draught horse:

- it refused to maintain our chosen font, Topaz 8 (even though we had selected it as our default font), but switched at random to Diamond 9, or other fonts of its choice, during the course of a document.

- it also changed leading at random during the course of a document.

- setting leading in the first place was extremely time-consuming. For example, in order to change from single to double spacing, we had to click the gadget from 12 through to 24, with a significant delay at each number while it reflowed the screen. *(Version 2.0, soon to be released, fixes this problem - Ed)*

- WYSIWYG was WYSIWon't! We continually found the screen display, page preview and printed sheet bore no relation to each other. One page on the screen would turn out to be one and a half pages on the printed sheet. We tried every combination of page length and line number, to no avail.

(NB: We wanted to print out the NLQ default font resident in the printer, not the WYSIWYG graphic fonts, which were difficult to read and painfully slow to print.)

- Sometimes it would print out a document (previously printed correctly) with the last one or two characters of each line flowing over onto the right hand margin of the next line, followed by a line break.

- And the printer still churned out a string of empty pages after the first, or alternated between printed and blank, according to its whim.

So the long pilgrimage began. First at the two shops where we had bought the program and the printer, respectively. We asked for a replacement *Excellence!*, but they had none in stock.

The Manager smiled condescendingly as we related our problems, certain he could have them fixed in a jiffy. But when we brought in our printer and disks, the knowing expression soon changed to one of bewilderment. He would have to "look into it". We wished him luck.

The second shop didn't seem to take any interest in the matter, but finally suggested we ring Fairstar Solutions. We did, and had a tutor come out at our expense. His initial optimism turned to dismay, as the printer and program defeated him as well.

I rang Brother again, and caused such a stir that they sent out the State Sales representative to thoroughly check the printer. Apart from a possible software compatibility problem (there is no *Brother M-1224L* printer preference, but we have set it to EpsonQ as advised), he could find no fault.

The general consensus of opinion was change printers. Which we did. From the Brother to a brand new Epson LQ-500. The second shop agreed to the trade, obviously relieved at not having to delve further into our murky problems.

However, the blank pages still churned out. I rang Epson, and spoke at length to the technician over the phone. I rang Dastron, who distributed Excellence! at that time (no interest), and Commodore Support. No luck.



By this time we were tearing our hair out, after many long wasted nights at our desk, wrestling with technology. The trouble is, the printer people blamed the program, the program people blamed the printer or the computer, and the shops just didn't want to know.

The good news is that we finally fixed the printer/computer/program communication problem, with some help from a second Epson technician and lots more experimenting with Preferences on our part (don't ask me how we arrived at the solution: The Kind Words manual says an A4 page has 72 lines, the Epson manual says 65, and so it goes on).

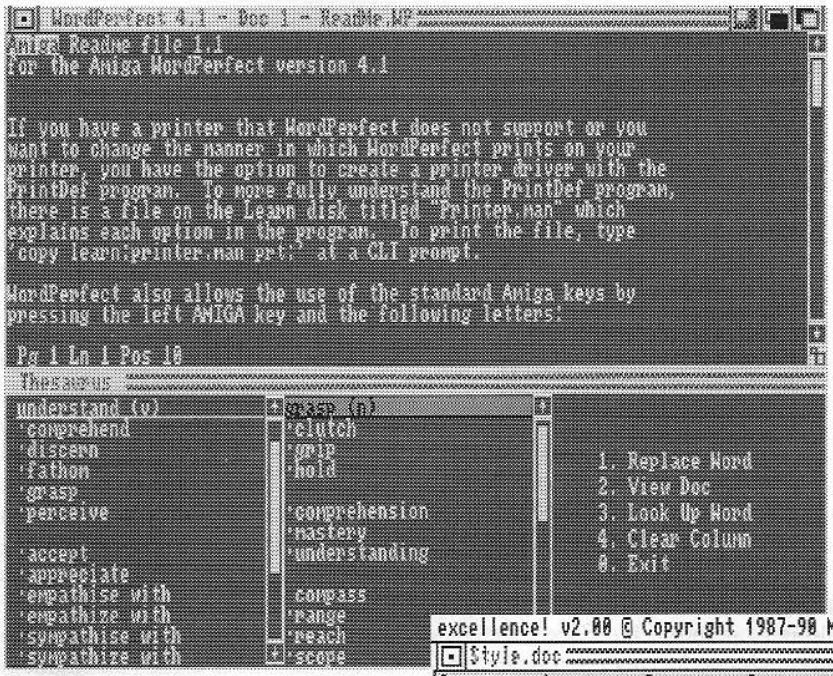
But the other Excellence! problems remained, and the dealer was still procrastinating about replacing our disks (which we were sure must be faulty). After much hassling on our part, the senior assistant who'd taken on the job of solving the case (he'd taken our disks home with him) rang to say that the only way he could use Topaz 8 consistently, and avoid random swapping, was to eliminate all the other fonts from the program!

Well, we thought that confession would guarantee us a new set of disks, but alas, our friendly helper disappeared mysteriously from the computer store, never to be seen again (Excellence! has that sort of effect on people!). The dealer never seemed to be there when we called in or telephoned (first with pleas then threats), and the new assistant claimed he could find no record of our purchase.

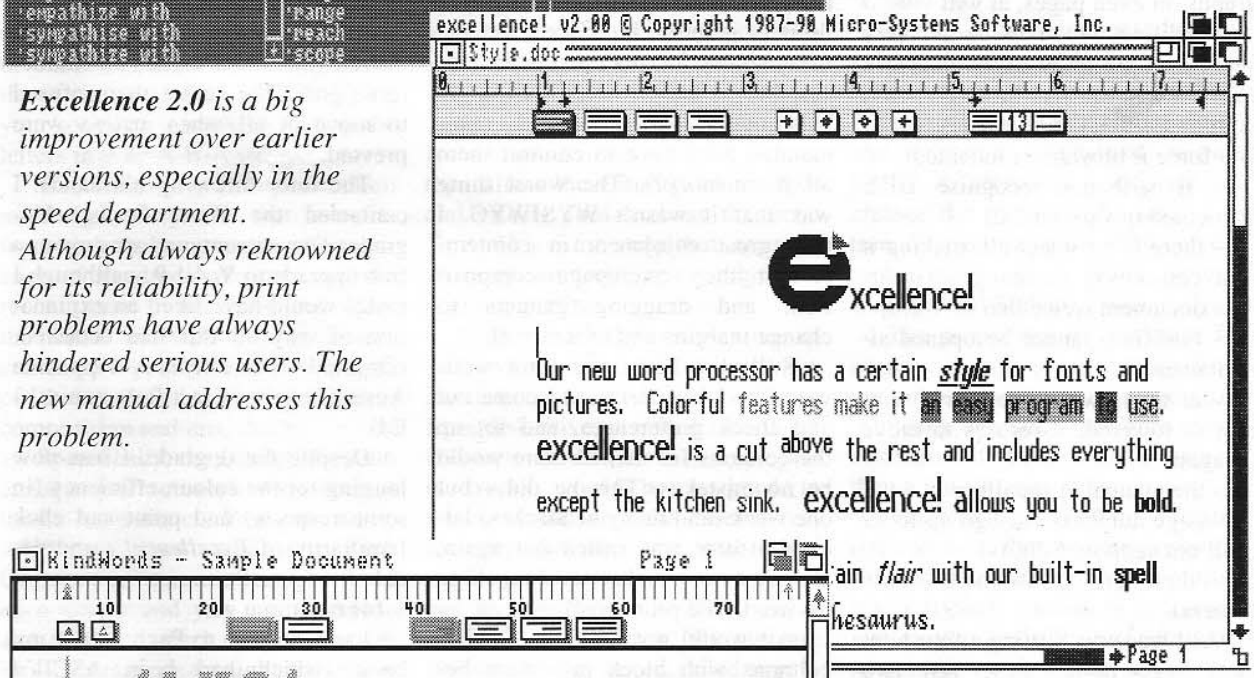
In the meantime, we were still exploring other avenues. Tracked down the importers of Excellence!, Computermart in Perth, and found the most sympathetic and clued up expert so far.

He acknowledged that Version 1.11 had quite a few bugs, and willingly exchanged our old disks for V. 1.14. He said we should stick to Topaz 11 in future. He advised us to set our preferences at two colours, not four or eight, in order to conserve memory. And he warned that launching a program by double-clicking a file icon could be responsible for strange settings creeping in..

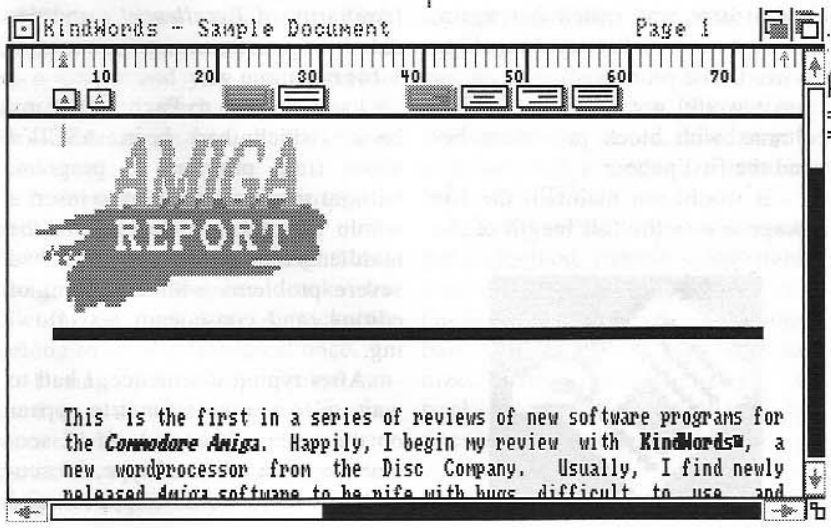
That was a big help, but there were some problems he couldn't solve by letter or over the phone, so he recommended some people to contact in Sydney. I was soon doing the rounds of the Amiga network -



***Word Perfect** is not well supported in Australia. Although a powerful wordprocessor , the Amiga version lacks Amiga features. Recommended for hard disk users only, and those who don't mind a learning a few keyboard short-cuts. Word Perfect has a strong spell-checker and thesaurus, but complex print controls and slow screen windows.*



***Excellence 2.0** is a big improvement over earlier versions, especially in the speed department. Although always reknowned for its reliability, print problems have always hindered serious users. The new manual addresses this problem.*



***KindWords 2.0** is fine for beginners. It is easy to use, and enjoys some powerful features you would only expect on programs twice the price. Produces excellent results from low-cost dot matrix printers. Doesn't perform as well with big documents.*

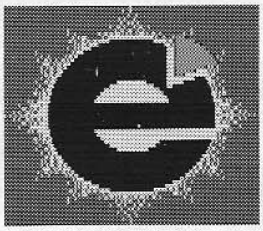
Amiga tutors, Commodore PR, Megadisc, and of course, Amiga Review. All were very helpful (at last) but no-one was an expert on Excellence!, especially in regard to writing long documents.

Commodore PR recommended Kind Words, which I tried, and liked (Version 1.2B). But it, too, had some strange habits:

- the cursor often jumped paragraphs, or even pages, at will
- editing reactions were very slow; a single letter at the end of a line ("a") hangs out the right hand margin (and is unprintable), or, if you force it to wrap, is indented
- it will not recognise DF2: (remedied in version 2.0)
- there is no select all, making it time-consuming to change margins on a document (remedied in V 2.0)
- two files cannot be opened simultaneously
- at times when the active window is lowered, it refuses to move up again
- the manual is appalling
- page numbers only go up to 99 (will not support 3 digits)
- there are no footnotes, only footers.

As I was now writing a four hundred page book, these last two drawbacks in particular, forced me to look elsewhere.

Several contacts had strongly recommended *Word Perfect*, which had the added advantage of being the only word-processor able to do independent columns (ie. parallel with block protection), which I needed for my TV scripts (Audio/Visual). Tristan warned me that I wouldn't like the program, because it wasn't user-friendly, but in

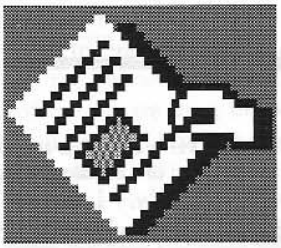


desperation, we bought it anyway.

Tristan was right, it was very awkward to use. There was only a limited graphic interface, and its many powerful features, were accessible only via PC-style keystrokes and embedded commands (did I have to commit them all to memory?). The worst thing was that it wasn't WYSIWYG. I take great enjoyment in comtemplating the screen/page composition, and dragging gadgets to change margins and tabs at will.

Still, I called on a tutor well-versed in *Word Perfect* to come out and check preferences, and set up the columns for me, so there would be no mistakes. This he did - but one week (and many headaches) later, the tutor was called out again, and this time ended up scratching his head. The problems?

- it would not maintain parallel columns with block protection beyond the first page
- it would not maintain the file linkage across the full length of the



file, so the end of the script would suddenly appear at the beginning, and vice versa.
- when the file was loaded, with columns already defined, the display assumed the default left margin was active, and would not display any text to the left of it. The only way to get at that text was to enter "Reveal Codes", and move about within it.
- moving the cursor arrow left from the top of the file actually moved the cursor right (10 characters right). The cursor then refused to move at all when arrows were pressed.

The tutor threw up his hands. I contacted the *Word Perfect* Upgrades Department, and was given a free upgrade to V. 4.1.9. - although I really would have liked an explanation of why all this had occurred. (Original *Word Perfects* shipped in Australia were in fact Beta copies! - Ed)

Despite the upgrade, I was now longing for the colour, efficiency (in some respects) and point and click familiarity of *Excellence!* , and decided to give the newer version (V 1.14) one more go.

I was now up to Page 160 of my book (which had been ASCII'd about from program to program, without success), and had to insert a whole chapter somewhere in the middle. Poor old *Excellence!* had severe problems with any form of editing, and consequent text flowing.

After typing a sentence, I had to wait up to a minute for it to appear on the screen. It once took 12 seconds to undo a line of type, 30 seconds for three words to appear, and

35 seconds to delete one word! It took very little time for us to get fed up!

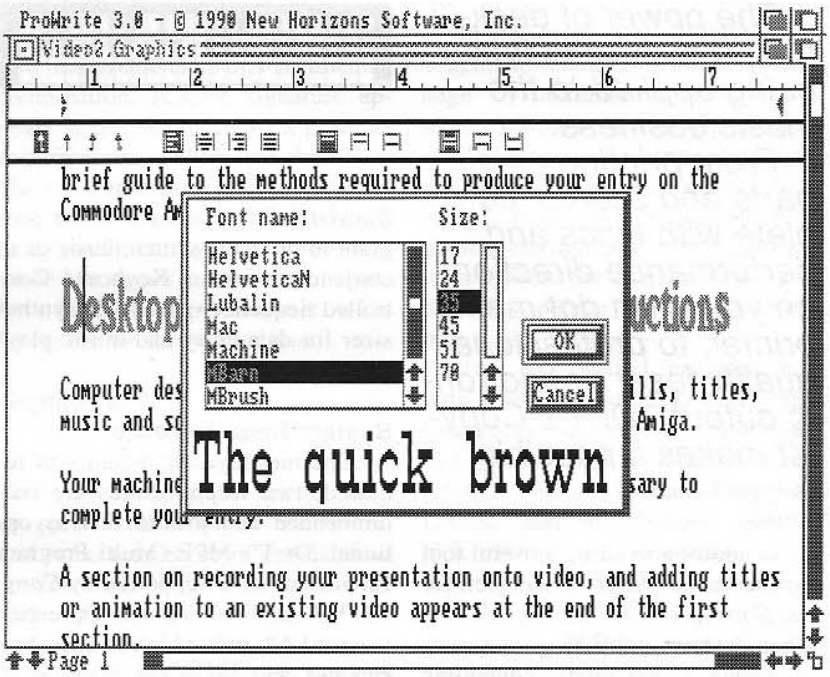
On top of this, we had a problem with the program crashing, particularly when we tried to open a file. This was also happening with *Kind Words*. Often the screen would totally freeze, and we had no choice but to re-boot (so losing the opportunity to save the last few paragraphs written). I called out yet another tutor, to check carefully for viruses, but he could find nothing.

What to do now? I arranged a meeting with Howard "Try the new *Kind Words 2.0*" Needleman, from Commodore PR, and Andrew "Try the new *Excellence!* 2.0" Farrell. We did. *Kind Words* was much improved, with quite a few additional features (including "Select All") - but still no footnotes, unfortunately.

The latest version of "Excellence!" was a lot faster in my 160 page document than the old version, and I was about to be won over. The first snag was that I could not call up Page Preview. Not enough memory, it said, although according to Workbench we had 237k left. (We'll have to get that hard disk with extra memory that Tristan has been hankering after).

Then I printed out ten pages, and found the last six were not WYSIWYG. The bottom lines had crept up to the top of the next page, so that the header was almost in the middle!

Horrors! Before contemplating suicide, or throwing the whole damn thing through the window, I rang Andrew again. He was soothingly optimistic: "I may have the answer to all your problems: the new *Pro-Write 3.0*".



What could I say? I agreed to give it a try.

This article is its first trial. So far, it hasn't done too badly at all. There are lots of good features.

Screen interface isn't quite as flashy as *Excellence!*, of course, but no faults with the performance. The only flaw is that it hasn't got footnotes (only headers and footers, which you can't change from page to page) - and that makes a would-be author's life difficult.

Oh, and I have found a little idiosyncracy in its dictionary. I did a spelling check on this article, and it pulled out two words, "draughthorse" and "luck". Asked for an alternative to "draughthorse", it came up with "drugstore"! But it couldn't come up with any alternative for "luck". If this program doesn't recognise luck, how on earth are we ever going to get any! We live in hope.

§

End Note

There can be no doubt that serious wordprocessing on the Amiga remains a difficult and troublesome field to conquer. Over coming issues, we plan to take a more in-depth look at some of the problems Kay encountered and publish ways to work around or solve the limitations of existing products. In the mean time we encourage other professional users to contact us with their comments, preference and printer settings or any other relevant information on the subject.

❑

Dr T puts music into print

By Eric Holroyd

The power of desktop publishing is now being applied to the music business.

From printing music parts and scores, complete with lyrics and performance directions on your own dot matrix printer, to professional quality laser or linotronic output - Dr T's Copyist makes it possible.

In addition to being a useful tool for the music writer or arranger, *Dr T's Copyist* can be interfaced with other desktop publishing programs to create publications containing music. You do this using the option to create TIFF and EPS files.

Operation

There are three major functions in *Copyist DTP*. These are Score Editing, Transcription and Printing.

Score Editing supports both keyboard and mouse input for placement of notes and markings. It can transcribe music from a variety of data files such as KCS, MRS, DMCS, SMUS and standard MIDI files. In essence, the program simply reads a music file from disk in any of the aforementioned formats and turns it into normal notation ready for printing.

Any printer supported by the Amiga preferences may be used, along with the additional option of Postscript output. The Adobe Sonata Music font is included.



There are endless possibilities for a composer or arranger to use *Copyist DTP* as a stand alone program to produce written music or in conjunction with a Keyboard Controlled Sequencer and MIDI synthesizer for data entry and music playback.

System Requirements

One megabyte of memory is required, two floppy drives are recommended and a hard disk is optional. Dr T's MPE (Multi Program Environment) is supported by *Copyist DTP* (and on Copyist Apprentice from v1.62 on) which means you can use and share data created in any of the other programs in the suite. There are over thirty Dr T programs including Caged Artist, MRS, KCS, and Level II.

If you have a hard drive you will find it easy to swap between the programs to manipulate the data via the MPE option on the pulldown menus. As with many other productivity programs, the more memory you have on board the more programs you can have resident - disk users with a fair amount of RAM can also make full use of the MPE.

Five stand-alone print modules are supplied. These allow you to produce high quality scores on virtually any printer. You don't need to have *Copyist DTP* running to use these programs - just boot up WorkBench and it's all point-and-click from then on.

The first one will print high resolution scores on any printer supported by the Amiga. The others are "specially optimized" drivers - these use specially designed music fonts - for use with most dot matrix printers, HP LaserJet and DeskJet printers, and PostScript printers.

TIFF is an acronym for Tag Image File Format. Using TIFF, graphics or scanned images can be exchanged between a number of formats. Each file created contains one page of the Copyist DTP file. When imported into a desktop publishing program on your Amiga the images may be cropped, stretched or resized.

EPS stands for Encapsulated PostScript. A postscript file can be created which contains a structured object oriented graphic. The file can be output to a PostScript printer directly or imported into a desktop publishing program for whatever adjustments are required prior to publishing.

"produce high quality scores on virtually any printer"

I tried out the "Amiga" driver which is a general purpose driver for all types of dot matrix printers. Then I turned to the "Epson" and printed the same music file. This was even better and I must admit that I never thought I would see output quite so good from a dot matrix printer.

The sample printed here was done on the Star LC24-10 and the quality speaks for itself. Examine the sweeping curves of the slurs and

the clarity of the notes and beams. It is extremely legible and very readable from a working musician's point of view.

Obviously there is a trade-off to get such clarity from a dot matrix printer and in this case it is speed. It took an average of just over four minutes per page to print reasonably complicated music. When I looked back at some of the hand copying jobs I have done with a steel pen and a bottle of Indian ink I realized that those same pages would have taken many hours so the trade off works out well.

When entering music data in the Score Editor you can include smooth slurs, ties, and dynamic markings. The beams connecting series of eighth and sixteenth notes may be slanted or horizontal. A nice touch is the four point adjustment of slur curvature, height and direction which allows you to put the slur marking wherever and however you want it.

A full complement of musical symbols and commands are provided and all are accessed via natural sounding mnemonics: pp for Previous Page, ctrl/ps for Print Screen, iv for Insert space Vertically etc etc. Note Durations are represented by logical numbers such as: 2 = Half Note, 4 = Quarter Note, 8 = Eighth Note. Thirty-Second and Sixty-Fourth notes are represented by the first digit only - 3 and 6 respectively.

The function keys and the numeric keypad are fully utilized and there is a handy supplement showing all the various command keys together with the Amiga 1000 equivalents for the numeric keypad commands specified for the A500 and A2000.

Quantization is the automatic timing correction of your music within limits that you setup. This is available in *Copyist DTP* and means that if you have it selected and you input the right notes but with the wrong rhythmic timing then the program will "sort out" the timing. There is independent adjustment of duration and timing and you may work on each track separately and up to four sections of individual tracks.

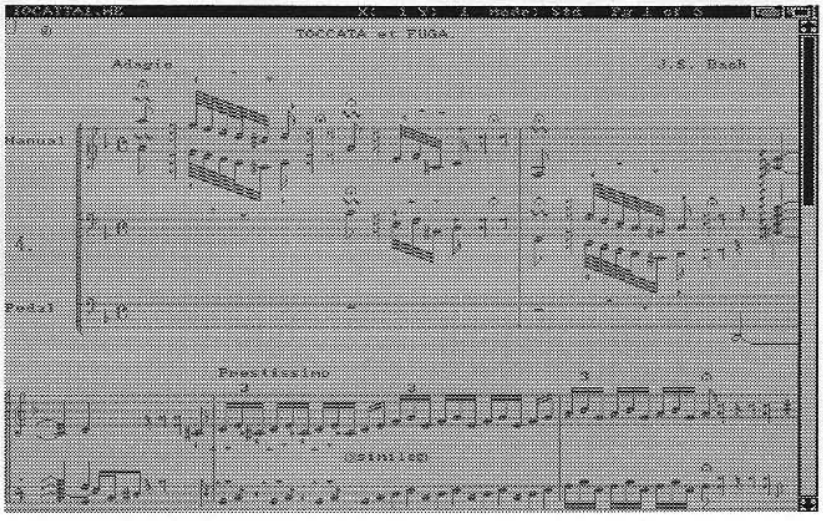
Only an Apprentice?

I had discussed one of the other programs in the suite - *Dr T's Copyist* Apprentice - in a recent issue of Australian Commodore and Amiga Review and reported on it as being a very useful music printing tool. The name gives the impression that it's a cut down version of Copyist DTP which is unfortunate as that's not the literal truth.

Rather than it being a little brother the Apprentice is more of a late teenager almost at full maturity. To compare the two programs is an onerous task as they have many many features in common and in fact work almost identically.

A couple of the major differences are in the DTP area as the Apprentice doesn't have the PostScript support that *Copyist DTP* does, and in the size of scores allowable. Apprentice lets you work in a very respectable 12-stave capability whilst *Copyist DTP* goes up to 16 staves. The maximum length of a Copyist Apprentice score is five pages whilst in *Copyist DTP* it's one hundred pages.

Copyist DTP allows you to define and record "macro commands" for quick and easy execution of a series of keystrokes which you use often. Musical and rhythmic patterns can be set in a macro as can your own "Copyright by..." notice for example. Macros can be set up to call other macros and may be nested up to 16 levels deep. A



macro may be set up to wait for input from the user before execution.

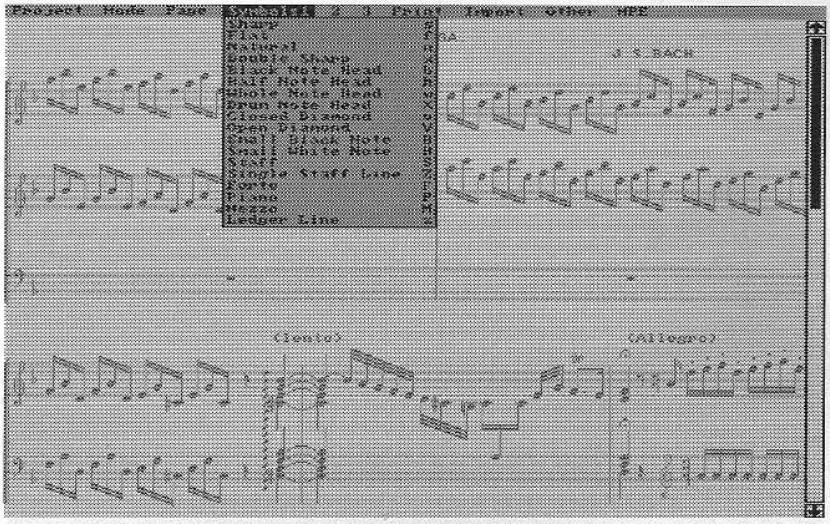
For example, if you set up a macro to put certain information on screen at different cursor locations, the cursor needs to be in the right place before it does its job. That is where you would use the "wait for input" feature in another macro which would position the cursor prior to execution. Much harder to describe than actually do - the manual has a section which explains the procedure.

Copyist DTP includes a user definable Symbol Editor and Part Generator which allows you to set up your own selection of staves and transpositions. This would be useful for musical configurations such as Baroque Ensembles and Choirs etc as well as some of the more modern Pop, Rock and Jazz groups.

In addition to explaining the many features and functions of *Copyist DTP* the manual has various appendices covering many of the programs abilities. These include such things as "How to Interface with IBM PCs", "A Glossary of Terms", "Advanced Editing", "Desk-Top Publishing with the Copyist", and "Instrument Ranges". This last one was particularly interesting to me with the file that produced the printout being on the Auxiliary Disk (*Copyist DTP* comes with two disks, the program and auxiliaries) so I was able to print it out on the Star LC24-10 to have a full size copy loose on the desk.

Transcription

Transcription is normally used in the sense of a musician notating (writing down) other people's performances, as in listening to a recording and writing down in notation what has actually been played. This is a fine art and is very difficult to accomplish. To listen to a two minute piece of computer music and write it down could take many hours and perhaps even days.



The capabilities of *Copyist DTP* include Treble, Bass, Alto and Percussion clefs and also Guitar Chord Grids. These are sizable for use in writing for Lute players. The 16 stave capability includes orchestral percussion (so does Apprentice but with 12 staves maximum).

Copyist DTP can do the notating job much quicker than any human music writer by reading in the Sequence File from disk and converting it first of all to a Stream File and then to an actual Music File. There are three steps involved in this, all handled in the Import Menu. It is well explained in the manual, in fact there is a full chapter on it which shows how to do it all in reverse so that a Music File created in *Copyist DTP* by data entry can be converted into a Sequence File playable in KCS.

Once you master one Dr T's package, you have a head start on using any of the others in the suite - they all work in a very similar manner.

Screens and menus begin to have a familiar look about them. I found it to be a good environment for music production. If you work with music at home, in school, or as a profession you will need good music software sooner or later. I have seen none better than this. ❑

Product Guide
Copyist Apprentice. RRP $149.00
***Copyist DTP*, RRP $449.00**
ComputerMate Products
(02) 457-8388
Star LC24-10 printer.
Star Micronics
(02) 748-4300.

Reader Survey

What do you want from *Professional Amiga User* magazine? Here's your chance to voice an opinion and help the decision makers make the decisions! Photocopy or cut-out the form below and post it to: Professional Amiga User Survey, 21 Darley Road, Randwick 2031.

I would like to see more of:

News	❑	Letters	❑
Columns	❑	Gossip	❑
Evaluations	❑	Tutorials	❑
How-to	❑	Overseas news	❑
User Profile	❑	Public-Domain	❑
Stories by users	❑	Comparisons	❑
Colour Pictures	❑	Directories	❑
Software Guide	❑		

What else? _____

AREAS OF INTEREST

Communications	❑
Database	❑
Wordprocessing	❑
Desktop Publishing	❑
Desktop Video	❑
Animation	❑
Graphics	❑
Multi-media	❑
Midi-Music	❑
Other _____	❑

Name _____

Address _____

_____ Post Code_____

Do you use the Amiga professionally, is so how?

Age Group

Under 18	❑
19-25	❑
26-35	❑
36-45	❑
over 45	❑

Employment

Professional	❑	Trade	❑
Small Business	❑	Self-employed	❑
Student	❑	Retired	❑

Income *(optional)*

less than $26,000	❑
$27,000 - $35,000	❑
$36,000 - $50,000	❑
over $50,000	❑

Do you use a computer at work?____Which?_____

In the future I will probably buy:

Memory	❑	Accelerator	❑	Hard disk	❑
Amiga 3000	❑	Other	❑	_____	

An Introduction to Telecomputing

By Bernard de Broglio and Chris Fraser

Electronic communications and publishing are firmly in vogue in the computer world. Your Amiga, equipped with modem and software, is ready to tap into the telephone network.

This column will be looking at the uses to which your modem can be put, and the specific packages which will make this more flexible for you, the user. In coming issues, [insert name of column] will be examining the masterful term program, JR©Comm, and its future according to author Jack Radigan. The expansive wealth of on©line information will also be investigated, with jaunts through the Pegasus Network and one of the largest Australian Bulletin Boards, Teleinfo Systems.

This month, Chris Fraser provides us with a lucid introduction to public systems.

Licking stamps and sealing envelopes has always been, and always will be, a drag. Wouldn't the world be a better place if you could reach out and communicate with thousands of people around the globe, without the hassles and expense of bulk mailing? Or instantaneously track down the latest and greatest that public domain software has to offer, without having to leave the comfort of your computer chair? Well, the world of public access bulletin boards is one such better place. To become involved is easy, to become addicted is even easier!

To take your Amiga on a journey through this world, you need a device known as a modem. Essentially, a modem is a box which lets two computers talk to each other over a standard telephone line. To set up a modem is relatively easy; you simply plug it into a standard telephone socket, attach a cable to the serial port of your Amiga and load up appropriate "terminal" software. Once you've done that, you dial the telephone number of a particular bulletin board, and let the modems establish a "connection".

After you have connected, the Bulletin Board usually will transmit a greeting and ask you to identify yourself. And so, you type in your name, and where you are calling from. Verification that you are who you say you are is usually asked for, but seldom checked. Lastly, you are asked to choose a password, so that next time you connect to the Board it can make sure it's really you (and not someone else trying to use your name). Once you have done this you are then usually free to carry out whatever activities the board may offer.

Side Point

The person who operates (and pays all the bills for) a Bulletin Board is the System Operator. Many Boards are free, but virtually all ask for non-compulsory donations to help pay for running costs. The only thing you always have to pay for is the cost of the telephone call and the expense of your modem and computer (which, in the long run, can be reasonably inexpensive).

The exact services offered by Bulletin Boards vary significantly. However, almost all boards offer public message sections where you can leave electronic mail to other users. These are usually arranged into conferences on a particular topic or issue. For example, most bulletin boards which support the Amiga have an Amiga conference area where you can discuss various aspects of the Amiga with other users. In such a conference you can read and respond to other user's messages and also put in your own 21 cents worth. If you're having a particular problem, you could post a message about it in the Amiga conference and usually have a one or more replies waiting for you the next time you call.

Conferences such as this can be like these can be local or networked. Local conferences are unique to the particular bulletin board on which it appears. The par-

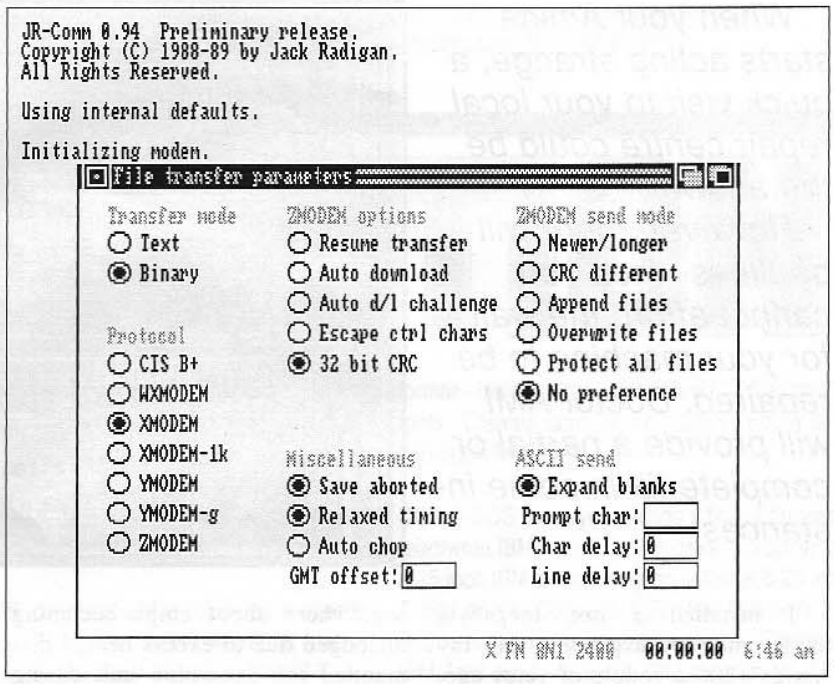
the Universe, and Everything to the *International Amiga Video Conference*.

Every night in the wee-small hours of off-peak phone charges, the various bulletin boards in the network all swap mail so that each has an up-to date copy of the messages. In this manner, messages you leave will literally reach an audience of thousands. Of course, you mightn't always want everyone to read your mail, so most bulletin boards allow the sending of private notes to other users, both locally and through the network.

Some bulletin boards arrange for their users to be able to "point" off them. Normally, when you read your mail you do it while you are connected to the bulletin board. Pointing allows you to connect to the bulletin board and quickly capture all of the mail from the conferences you are interested in. After that's over, you hang up and go through the mail at your own leisure. When you've answered everything you want to, you call up the bulletin board again, send your replies and collect the next batch of mail.

Pointing is usually preferred by people who a large quantity of mail or like more time to consider their replies.

Messages are fine if you don't mind there being a few days turnaround time between posting a message and getting a reply. If you're after more spontaneous real-time conferences, you can always try CB-Chat, as offered by some of the larger boards with multiple telephone lines. CB-Chat lets you have conversations with one or more of the other users currently on the board. Everything you type gets sent to the other participants, one line of text at a time.



CB-Chat is a great way to meet new people and is proving extremely popular on bulletin boards which support it.

Equally popular, file transfers allow users to "download" public domain software from the bulletin board to their own machine. Most bulletin boards have public domain file libraries of some description, some boasting as much 1.4 gigabytes (ie: 1.4 million kilobytes). Many bulletin boards specialize their file libraries to particular types of computers (such as the Amiga) or special interests (such as Astronomy).

If you're planning on getting serious about file transfers, it's recommended that you get a fast modem, preferably 2400 bps (baud) or faster. Even at this speed, a 240k file would take at least 20 minutes to download. In an attempt to reduce transfer times, certain file compression programs are in common use on bulletin boards. Examples are *arc* (which adds a .arc suffix to files it compresses), *zoo* (.zoo), *lharc* (.lzh) and *zip* (.zip).

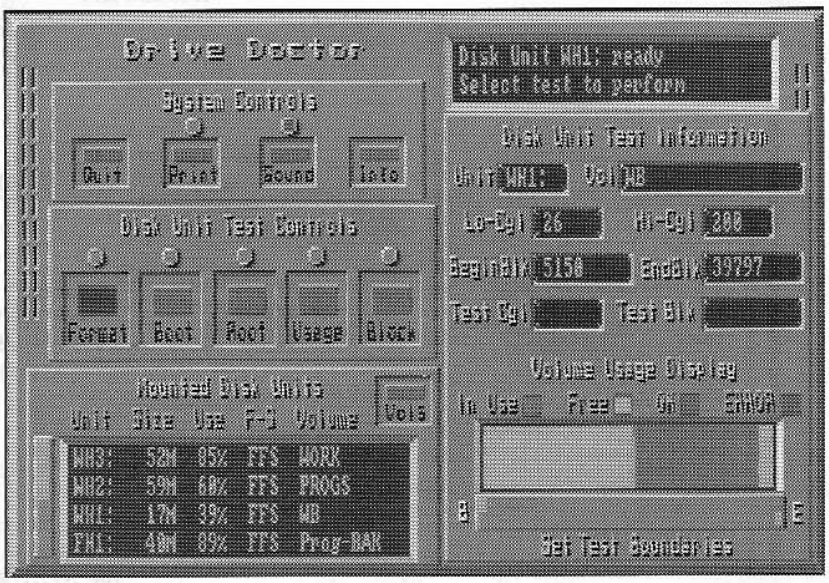
Before you can use these compressed files you will need the appropriate de-compression program. Compressed file "archives" also have the advantage that they can group multiple files into the one compressed file, meaning you can download them all at once, rather than one at a time. ❑

Doctor AMI - Diagnostics on a disk

By Eric Holroyd

When your Amiga starts acting strange, a quick visit to your local repair centre could be the answer.

However, there will be times when you cannot afford the wait for your machine to be repaired. Doctor AMI will provide a partial or complete fix in some instances.



I installed a one megabyte Skyles memory expansion into my Amiga 1000 a couple of years ago. It plugged directly into the right hand side of the computer without any need for modifications. Since then I have been completely happy with my expanded megabytes of RAM.

Solving Memory Problems

However, there have been two occasions when I had memory troubles. If I had been able to call on Doctor Ami for help I would have known instantly what had gone wrong. In both cases I was trying to load memory-hungry programs.

I checked for viruses and corrupted files but could find no valid reason for the non-loading until I loaded up a utility that told me how much memory was available. When this told me I had less than my usual toal, I knew that there was something amiss. I recalled reading somewhere about chips becoming dislodged due to excess heat. I dismantled the expansion unit casing and pressed on each of the chips to make sure they were still seated.

When I switched everything back on I had a full complement of memory - indeed that had been the trouble. However, if one of the memory chips had been at fault, requiring replacement, my machine would have been very unstable. Here is where Doctor AMI can save the day. It is able to isolate corrupt memory and create a config file which accessed during boot up tells the Amiga to ignore broken RAM. Whilst this is only a temporary measure, it can mean the difference between finishing an important task on time, and arriving a week late.

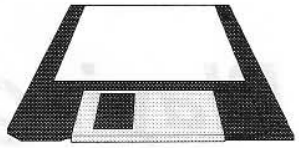
Doctor Ami consists of two separate diagnostic programs - Memory Doctor and Drive Doctor. Each is a stand alone program with several functions. When you boot up with Doctor Ami (after first making a backup) you are presented with two icons, Memory Doctor and or Drive Doctor. Both present a bas-relief menu screen when run.

Memory Doctor

Using Memory Doctor, you can set the Start and End Addresses of the area of RAM which you wish to test. Then you choose which test to perform. Read will read each free memory location and is a good starting point to determine if there is any memory problem.

Read locates severely damaged memory chips, but to fully test the integrity of all the memory you need to use the Read/Write option which both reads and writes to all free memory. This will locate most problems.

There is also a test known as Drop which tests the retention ability of a memory location - whether it will hold its value over a periodof



time. This is the one to use when unusual problems continue to occur. If the retention ability is on the wane, it means that the specified chip is getting tired and should be replaced.

When testing your system you have the opportunity to have the results sent to the printer. The printout will tell you the date of the test, the area of memory tested, manufacturer's ID number, and what the program found. If a chip fault is found it will print the relevant chip numbers.

If there is a faulty area of memory you can still use your Amiga by running a program on the Doctor Ami disk called "Config-Mem". This reconfigures Amiga's memory to "skirt around" the suspect area so that you can use the system whilst waiting to get it fixed. The book tells how to run Config-Mem from your startup-sequence so that it will remove defective memory from the free memory pool.

Drive Doctor

Drive Doctor is a diagnostic tool capable of eliminating errors that cause operating system problems. Disk units suffering operating system problems usually don't cause a system crash but can result in a volume failing a format, or perhaps becoming "not a DOS disk", or having some other DOS requestor tell you that the disk unit can't be read or written to. If you have ever had any of these problems then the Drive Doctor may be able to help.

The principal function of Drive Doctor is to attempt to restore a damaged disk or volume to useful service. To do that it runs a series of tests and repair functions on any AmigaDOS tracked media device.

Repair of many of the causes of DOS error requestors is possible, quite often without losing any of the data involved. Also, it will remove both "hard" and "soft" errors, allowing continued use of defective drives and will even format drives with defective media, "mapping out" or skirting around unusable portions of disk surface.

Test options include a *Boot Check* which confirms the Boot-Block contains the necessary data to do its job.

The *Root* test checks the Root Block of the disk. This is the one to use when you have suffered a problem with a disk and get a requester querying the validity of the disk.

If the program finds a problem with the Root Block it will ask if you want to rebuild it. If you elect to go ahead you may lose some data, but as the disk has already become corrupted you may decide that some data loss is preferable to losing the whole lot. Before the Drive Doctor does anything at all that may cause any data loss it flashes up a *Caution* message.

Another test checks the "Usage" of the Block Allocation Table used by a disk. If parts of this Table are invalid or corrupted in some way then the disk is no longer usable.

A further check tests each and every "Block" on the disk and if it finds any dud Blocks it will report on them and offer to remove them from service. If you suspect just a few Blocks you can set the Start & End of the test with slider switches.

Drive Doctor has a Format test which does a full disk format and obviously wipes any existing data off the disk. The format routine will not abort if it finds a drive error, rather it will remove any defective Blocks from use so that you can use the disk as a data disk for graphics, text or whatever. Again, Start & End of this Format routine can be set with the slider switches.

If you opt to send test results to the printer you will get a printout of the results, otherwise they will display on screen.

There is a handy section in the booklet about "Handling Severely Corrupted Disks" which steps you through the procedure to either "Rebuild" or "Resurrect" such a disk. This would apply to disks which mysteriously acquire the stigma of "Not a DOS disk" and you will want to restore it to normal usage.

The Drive Doctor manual discusses the procedures for salvaging data and conducting tests on hard drives. It also explains what the various Amiga DOS error messages mean as well as SCSI controller error messages for the benefit of hard drive users.

All in all I found this a very useful utility. It performed very well for me under test and I will be putting it into action the next time I get one of those mysterious error messages.

Product Guide
Doctor Ami
RRP $59.00
Computermate Products
(02) 457 8388. ❑

Playing It Safe - Filtered Power

By Alexander Lambert

Your Amiga's power supply is designed to keep the internal circuits charged with a voltage kept within very close tolerances.

The myriads of chips inside your machine are very fussy about how much voltage they need to operate correctly. Small deviations of plus or minus one volt can be hazardous to their health.

Small fluctuations are handled by the standard power unit without any problem. However, a large spike on the line can be devastating. I needed to be reminded twice about voltage spikes before I got the message and finally added some protection to my system.

Practical Experience

My first rude introduction to voltage spikes occurred when a motor vehicle hit a power pole at the end of our street. The impact caused the high tension wires carrying power to touch the low tension wires. This sent a large spike of many hundreds of volts through the household wiring. All the equipment operating in the house at the time was badly damaged, a VCR, fridge/freezer, two clock radios and a computerized CB radio, all went to electron heaven in a split second.

My next lesson was to come in the form of a lightning strike. It struck the power pole situated right outside our home. What a noise! The amount of energy to hit that pole was evident from the very loud explosion, and pieces of insulator that flew for 50 metres or more around the pole. This time I lost another VCR, so I decided it was time to take a good look at power line filtering.

On both occasions the damage included burned circuit boards or transformers. In both cases, the use of a line filter could have saved everything. Just a small part of the money I paid out in repair bills would have paid for filters/protectors for all the equipment in the house.

The Solution

Power filters or line conditioners can take many forms, some are very expensive and well out of the reach of the average computer user. A filter or conditioner will not stop the full force of a lightning strike, especially when the strike is directly on the house and the voltage surge is carried to the equipment via the household earth lead.

On most occasions the troublesome spikes and surges are carried on the neutral or active lines of the wiring. Apparently the lightning strike responsible for the damage to my VCR did not enter the house with full force. Some of the energy was grounded at the pole, and only a small amount of energy was carried on the wiring into my home.

When the electricity leaves the power station it is clean and free from line pollution. But as it travels towards your house it is infected with all sorts of trash. This pollution is injected into the line by many of life's necessities, welders, electric motors, computers, lightning, and transmitters all add their share of noise and spikes.

Salt or dust building up on the insulators can cause the power line to start arcing in damp weather, causing all sorts of interference. With this polluted power entering the house, and consequently powering your valuable equipment, it would be a wise decision to use some sort of line conditioning.

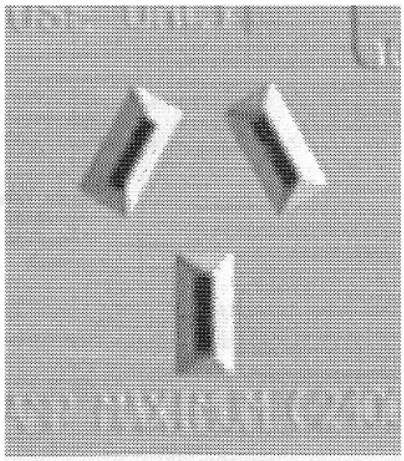
I made an appointment with the managers of two local firms, located in Osborne Park, a suburb of Perth. My first appointment was with Mr. Colin Walsh, the manager of Australian Protective Electronics.

A.P.E distributes three products aimed at the less expensive end of the filter market. These products would be well suited to the average computer user, and would give most electronic equipment a greater degree of protection than running it straight from the supply line.

Protection At A Small Cost

The first of these products is a small unit known as the C.P.F model 350. It is a continuous power supply filter and spike protector, resembling a small plug-in battery eliminator. The filter is plugged into the wall socket, then plug your device into a socket on the unit.

If you have more than one device to run, you can plug a multi-socket board into the unit. The C.P.F 350 can handle a current draw of 10 amps continuously. This would allow an Amiga, a monitor, a



printer and a modem to be protected by only one unit without overloading it.

Colin showed me some C.P.Fs that took the full brunt of massive power surges that destroyed the filters. Miraculously the equipment connected to the units was undamaged. One unit was used to protect a valuable stereo. It arrested a large spike that totally wrecked the C.P.F 350, but left the stereo unaffected. The customer was quite happy to pay for a new C.P.F 350 rather than the cost of a massive repair bill to the stereo.

The C.P.F 350 is moderately priced at around $70 or less, and considering the cost of the equipment it was used to protect, it was very good value for money. It is rare for a C.P.F to be totally destroyed; it takes a massive amount of energy to do that. The unit will protect your equipment, even to the point of its own destruction.

Although every spike that enters your computer might not actually destroy it, the effect of these spikes are accumulative. In other words, the spikes can do small amounts of damage that slowly add up. Until eventually the equipment fails, and consequently, the result is a large repair bill.

The voltage supplied to your house is usually unregulated. It can rise and fall to a point well above or below the nominal 240v. When this happens there is a good chance your equipment will be damaged. A complete failure of the 240v power is a "black-out." When the power drops to around 210v or less it is known as a "brown-out".

The C.P.F 350 can arrest spikes and noise, but it is unable to detect the slow voltage rise or when the voltage has dropped too low. Thankfully another product from Australian Protective Electronics is designed to do just that.

This protect device is plugged in to the power socket and the equipment is plugged into a socket on the unit. The *Power Guard* model 370B constantly monitors the voltage at the power socket. If the voltage rises above 275v it will switch off the power to your equipment.

The device will wait for three seconds before it attempts to turn the power back on. If the power is still high, *Power Guard* will wait until the power returns to an acceptable level before it switches itself back on. The reverse of this is a low power situation (brown-out) and *Power Guard* will turn the power off when the voltage falls below 210v.

After a very short power cut or black-out, it is not unusual to have a large power surge as the power is turned back on. The delay is designed to prevent this surge from entering your equipment. Just in case the power was to return and then go off again, (this seems to be the norm here in W.A) the three second delay will prevent Power Guard from rapidly switching on and off.

The unit has four coloured LEDs to show the unit's status. One red LED shows the power has exceeded 275v. Another red LED indicates the voltage has dropped below the 210v limit, while an orange LED indicates the unit is in delay mode. Finally a Green LED indicates the power is within acceptable limits, and all is well.

For those of you that might not have thought of it already, the two units can be piggy-backed, giving you the best of both worlds. When purchasing the Power Guard you have the choice of a three second delay or a three minute delay. If the unit is used to protect a washing machine, VCR or fridge, the three second delay would be a good choice.

The three minute unit would be the better choice for your computer. The extra delay will give the computer's power supply time to settle down before the power is turned back on.

There is a chance the unit will turn off when the hard disk is updating data, in which case the disk might become corrupt. In this case the user has to consider what is more important, losing your data or the computer.

The CMF3 is the third unit from A.P.E and is an industrial type of line filter. Its small dimensions enable the unit to be placed inside the case of most equipment to be protected. It has double sided sticky tape on the its back, so there is no need to drill any holes in the equipment to mount it.

Incoming voltage is connected to one terminal block and the filtered voltage is taken to the equipment from another terminal block. Both terminal blocks are clearly marked for identifying the input and output. It is more expensive than the C.P.F

350 at around $150, but a look at the specifications shows it to be superior to the C.P.F 350.

The CMF3 is a good proposition for a small business where the loss of data, or just the fact that in a power black-out the time the computer is down could mean lost income.

Amazingly I experienced a black-out when I was writing about the very subject. I can assure you it did happen. Down the tube went two or three hundred words. My hard drive was not writing at the time, or I would have had a corrupt disk as well.

Uninterruptible Power

So it was with great interest that I kept my second appointment with Mike Cunningham the manager of Solar Basic. This firm builds and distributes UPS units, or "Uninterruptable Power Supplies". Solar Basic can supply a UPS to suit most computers, from a PC to a main frame.

The UPS will deliver power to the computer as soon as the power from the line is interrupted. This could be a complete power failure or a brown-out. When the power fails the UPS takes over, supplying enough power for the computer operator to save files etc and power-down gracefully. The amount of time you have to power-down is dependent on the model of UPS and the power requirements of the computer.

There is a built-in alarm to inform the user the line voltage has failed and you are now using power supplied from the UPS. The alarm can be silenced with a push button but will sound again when there is only two minutes of power remaining.

Two minutes is enough time to power-down if you took the steps to save file when the alarm first sounded. An extra alarm jack on most unit interfaces the UPS with the computer enabling unattended shut down.

Mike Cunningham was very helpful, demonstrating a small model UPS suited to the small business or home user. This UPS was connected to a PC, and while the hard drive accessed files, Mike pulled out the 240v power plug supplying power to the UPS. Being a computer user myself, my heart went into my throat. I fully expected to see the computer die, and take the hard disk with it.

Believe me, its very strange to see someone smiling from ear to ear, as the power plug is pulled in and out rapidly. It seemed unnatural for the computer to continue doing its thing, totally oblivious to Mike's antics. The chances of generating a large spike by quickly removing and replacing the power plug is quite high, but if a spike was generated at all, the filter built into the UPS took care of that.

A small unit like Solar Basics 45-26-630 from the 45 series, delivers around 300 watts, plus line filtering, and will power the A1000 or A2000 for 5 to 15 minutes. For a system needing a little more time or power the 45-26-65 will deliver 500va or around 500 watts. The price for these pieces of electronic wizardry is around $954 for the 300va unit and $1194 for the 500va model.

For around $2500 there is a UPS capable of running an Amiga 2000 for something like 3 hours. For a small business relying heavily on their computer, it might be what is needed to keep the business going regardless of constant black-outs.

It seems that each year the general public spends more and more money on a home computer and extra peripherals, yet when it comes to protecting that equipment, very little is done at all. In some cases it's not the cost of the computer that matters most, it's the lost information or data. A student with a year's home-work and assignments on disk, would consider a wipe out to be catastrophic; some of that information may be irretrievably lost.

The UPS I tested did not have any safeguards against over-voltage, so I plugged the Power Guard into the wall socket and then connected the UPS to Power Guard. As a writer I can easily justify the price of the small UPS and a Power Guard for the protection it gives the computer, and for the continual security against lost data.

The UPS was used to power the "OMEN" bulletin board (W.A). A power failure would wreak havoc with OMEN's hard drive, if it was online and storing uploaded files. The little UPS operated flawlessly, allowing plenty of time to shut down the bulletin board in an orderly manner.

Needless to say, I almost had to break some arms and legs to get the UPS back again. A big thank you to Solar Basic and Australian Protective Electronics for generously supplying the units for evaluation. ❑

Colour Desktop Publishing

By Andrew Farrell

Professional Amiga User was colour desktop published using Amiga technology.

Although we were at first unsure as to whether we could comes close to what we had seen produced overseas, by the time film was churning out of the linotronic printer, we had managed to surprise ourselves with what was possible

For colour work, we discovered a powerful machine is essential. Processing a separation, and the sheer size of the resulting files, demands a fully equipped Amiga 2000. Our system included five megabytes of RAM (occasionally boosted to seven for larger colour scans), a 68030 accelerator running at 25Mhz (faster would be even better), and a 136Mb Fujitsu SCSI Hard Drive.

A Display Enhancer was added to allow a steady flicker free display using a VGA monitor. Other hardware included an NEC LC-890 Postscript printer for proofing pages and the Sharp JX-300 colour scanner. To interface the scanner, an ASDG Twin-X board was used.

Software

Professional Page 1.3 is the premier desktop publishing package for the Amiga. Although others exist with more bells and whistles, they do not offer as much low-level power, or over all reliability. A new program called *Saxon Publisher* may change all that.

Professional Draw was used to produce structured drawings. Version 2.0 was released just prior to production of Professional Amiga User - unfortunately we had to contend with the Alpha copy, which still lacked some of the features promised in the release version. Next issue we hope to make better use of this product, which is able to produce colour graduated back drops or vignettes. It can also produce all the intermediate shapes, in up to 99 steps, from any two shapes with the same number of points.

Scanning was carried out using *Professional Scanlab*. This will scan in up to 450 DPI, although most of our scans were between 100 and 150 DPI, which once scaled down slightly, were adequate for our requirements. *The Art Department*, also from ASDG, was used to manipulate scans and produce colour separations. Full 24bit (16.2 million colour) version were stripped into the raw postscript files using ReSep. Professional Page now supports 256 grey-scale scans, so these could be imported and printed directly.

Using *Transcript*, Text can be exported from a page with a single key command. *Transcript* will pop to the front, and display the exported text ready for editing. After touching up, the article can be reimported into Professional Page using another key command. Professional Page instantly reappears, and the text is dropped back into the page layout, with all font, point and style settings maintained.

Logistic Problems

We were not prepared for just how big all colour separated files containing bit-mapped images, or colour-scans would be. An average page with one colour screen-grab was a little under one megabyte. However, larger pages could fill six or seven megabytes. The front cover image filled over twelve.

Moving these files around, keeping them archived, and printing them out presented numerous problems. Some were solved, and some we simply worked around. With larger files, it is best to keep colour in the separation as an individual file - so that a large page ends up as four Postscript text files. These can be compacted using ARC or ZOO and then moved to floppy using Quarterback. From there we copied the output to a spare Amiga with a 40 Megabyte hard drive. In small batches the files were installed, taken to the bureau and printed.

Cross-DOS came in handy for reading and writing 3 1/2 inch format 720K MS-DOS disks. Once a special device driver is mounted, the Amiga treats whichever Amiga 3 1/2 inch drive is selected as an MS-DOS device.

Saved Production Costs

By using the Amiga, we shaved a significant cost off producing colour separations. In theory, we also short-cut the usual processes of film being shot and reshot, and the inherent quality loss suffered as a result. Virtually all the pages in this magazine rolled out of the printer ready to be turned into plates and printed.

There are many techniques involved in getting the best results, especially when it comes to scanning images. We suffered a little from inexperience, and thus tended to take longer at what next time will be a relatively simple process. In future issues of Professional Amiga User, desktop publishing will remain a key subject. Further articles explaining how the magazine is produced. o

A Hard Assignment - Setting Up Your Hard Drive

By Peter Deane

Arranging the startup-sequence, directories, system and fonts of your new 80 Megabyte hard drive is no five minute task. Here is the definitive guide to getting assigns under your belt.

A well arranged hard disk can save you precious time searching through your floppy collection. The only problem is that now some programs are on your hard drive, they need to be told where to look for various system files, or where to save all your work.

To do this correctly means you have got to use the AmigaDOS "assign" command, and to save having to open a CLI and do this by hand each time you boot, the assignments need to be performed in your startup-sequence.

Step by Step

Firstly, I will assume you have your hard drive set up and formatted under Kickstart 1.3, and the computer auto-boots or loads the operating system directly from the hard drive.

The first thing which happens of interest to us involves a file on the boot disk called "Startup-Sequence", which is located in the "s" directory or drawer. Executing this file may take a fair while with a floppy. A hard drive or RAM: drive will speed up execution immensly.

The startup-sequence is a personal thing, since it sets up the computer the way you want it. It is here that your assignments must be made for the programs on your hard drive.

The problem is, if you have only been using the workbench interface with the mouse, you can't even see the "s" directory, let alone the startup-sequence itself. This is because these files don't have icons.

You must open up a CLI window (or preferably, if you have Workbench 1.3, a SHELL window) and use the CLI commands to do your assignments. Let's plunge right in by opening up the system drawer on the workbench and double-clicking the SHELL icon. (If you have Workbench 1.2 open the CLI icon instead which may have to be activated through Preferences if you haven't done this yet).

You should be greeted with a plain blue window with a title of "AmigaSHELL" or similar. In it you will notice a yellow cursor, and if you click in the window with the left button of the mouse, you will find you can type in it. This is the other way of interfacing with your Amiga.

A few words about the file system will be necessary here. We can make analogies to the Workbench system, however, so I hope I don't lose you.

Firstly the floppy drives themselves are called df0:, df1:, df2:, etc. (ie the two letters "df" followed by a digit from 0 - 3 and then a colon). Your internal drive is called df0:. Hard drive partitions are referred to (usually) as dh0:, dh1:, etc. (ie the same but with an "h" instead of an "f").

A directory (or drawer) is simply given its name, but should be prefixed with the drive number of its location. For example the system drawer on your hard drive is referred to as dh0:system.

Thus if you have a file in your hard drive's system drawer called "Shell" its full name is dh0:system/shell. The slash is used as the delineator after the directory name.

If you've got a drawer inside a drawer (..inside a drawer...), the correct reference is, for example dh0:WordProcessors/Letters/Fred-27Jun. Only use the colon after drive names, and then slashes from then on.

Two things to note:
(**1**) AmigaDOS is not case sensitive for file names - DH0: SYSTEM/FRED is equivalent to dh0:system/fred or even Dh0:System/fRED or whatever...) and
(**2**) if you have a space in a filename you must enclose the WHOLE THING in double inverted commas. (ie if the file name is Textcraft Plus, the reference must be "dh0:WordProcessors/Textcraft Plus").

It is a good idea to avoid using spaces in filenames. Either link them up, or perhaps use the underline or another character instead (eg Kind_Words).

First practice using the SHELL. Try typing:

"run dh0:System/IconEd" (WITHOUT the quotes, please!).

This is functionally identical to double-clicking the IconEd icon.

Quit the program by clicking in

the close gadget. If that ran all right congratulate yourself on having performed your first CLI command. If it didn't the error message you get will help you, and you probably made a typo somewhere.

Try typing in your name. The error message should be "unknown command Fred" (unless there IS a program called Fred somewhere). I could go on forever about the CLI, but let's get down to the task at hand.

Armed with your documentation for the programs you wish to put on your hard disk, you will have to go and alter your startup-sequence to make the correct assignments. Locate the page that refers to hard disk installation. With that by your side, enter the SHELL (or CLI) and type

"ed sys:s/startup-sequence".

Sys: is an abbreviation we can use for the boot disk. If it is the internal drive that youve booted from you could type:

"ed df0:s/startup-sequence",

or use dh0:... for the hard drive. Sys: makes it easier, as you don't have to remember what disk you did boot from - the computer does.

Another window should open entitled "Ed V1.14" or similar and your startup-sequence will be listed. The sequence itself is just a long list of CLI commands that are executed in one go. It is also known as a batch or script file.

Use the arrow keys between the number pad and the keyboard to move the cursor up and down within the Startup-sequence. Ed doesn't use the mouse at all, so don't be tempted to point to the screen and click where you want the cursor to move. You have to use the arrows.

Have a read of the instructions. They probably won't make much sense to you now, but they will as you gain more skill using the CLI.

Now, if you're using a standard 1.3 Workbench, skip down six lines in the startup-sequence. There is an echo command: "echo A500/A2000 Workbench disk. Release 1.3 version 34.20", then a "Sys:System/FastMemFirst" followed by a "Binddrivers". Put your cursor on the line after "BindDrivers", and press return twice.

It is here that you will add the assignment. Now, I don't exactly know what the assignment is, so youll have to find that in the program's manual. The basic gist of it is to type in:

Assign <Program>: dh0:<Whatever drawer it is in>

Add a further return and type in the assignments for any other program you wish to install. For Kindwords you will have to assign the fonts to the hard drive and your instruction will be something like:

Assign Superfonts: dh0:Superfonts

For Textcraft Plus, the assignment is along the lines of:

Assign "Textcraft Plus:" dh0: Textcraft (note the inverted commas).

The main thing to remember is the colon after the first name. Anyway, your manual should specify the correct assignments to make, and may even suggest to put them in a different place in the startup-sequence. Their placement, however is not crucial. Just follow the instructions in the manual.

After you've added the necessary assignments (remembering to press return between each one so the word "assign" is the first word on each line), add another return (blank line) just for readability (they are ignored by the computer, so you can have as many as you like). You're now ready to save your startup-sequence to disk.

Hit the escape key (top LHS of keyboard) and your cursor will jump to the last line of the Ed window, preceded by an asterisk. Type the Ed command "x" (just "x"- no quotes!) and Ed will re-write your startup-sequence and quit.

Incidentally if you think you've destroyed the sequence beyond repair, type in "q" for quit after the escape and ed will say "Edits will be lost, type Y to confirm?". Type Y and you will exit Ed without changing anything. You can then restart by typing in the SHELL ed sys:s/startup- sequence like you did before.

To actually quit the SHELL (or CLI) after youve finished all this, type as a command "endcli". Notice a CLI or SHELL has no close gadget. Use Endcli instead, remembering that it applies to both CLIs and SHELLs.

After making all the modifications, you should reboot and let the disk load up. Here's where you will see if you've made any errors altering the startup-sequence, as a typo

in the startup-sequence will mean you can't re-boot fully.

You should also ensure that if you've assigned something to a drawer, that the drawer actually exists. If there's a problem, the sequence will abort in the initial "AmigaDOS" window and you will get an error message.

In the "AmigaDOS" window (which is really a CLI window) you should then type:

"ed sys:s/startup-sequence"

Now re-edit the sequence. Don't forget you can move the cursor around in four directions using the arrow keys. Check for mis-spelled words, not enough spaces, wrong punctuation, or similar.

You can use your backspace key to scrub out any characters and re-type the instructions. The combination <Ctrl>-B will delete the whole line the cursor is on. Finally re-save the startup-sequence (esc x) and shut down again. Keep repeating this until the drive boots up again and gives you the Workbench.

Should you not be able to get the startup-sequence to ever run again, edit it by scrubbing out all the extra bits you added with either the backspace key or <Ctrl>-B and save it again. You will then be back to the same situation you were in before you started hacking, but the programs won't have had the assignments made correctly. Perhaps tomorrow?

For further information there are many avenues, but perhaps you should look closely at the information you've probably already got. The program manuals themselves should tell you a little about using Ed under the section for hard drive installation.

The "Introduction to the Amiga" book which comes with your computer has a whole chapter on CLI commands headed "AmigaDOS and the CLI". In my manual, it is chapter 7. Look in the Index under "Ed" or "EndCLI", for instance, if your page/chapter numbers are different.

If you have Workbench 1.3, a small manual should accompany this entitled "Commodore-Amiga Enhancer Software Featuring AmigaDOS version 1.3". This little book is a goldmine of information about the new software. Particularly useful are chapters 1 & 5. Chapter 5 is entitled "Changing your Startup-Sequences" which is definitely useful. You should also have a look at Appendix A which is entitled "For Amiga 2000 Owners with Hard Disks".

❑

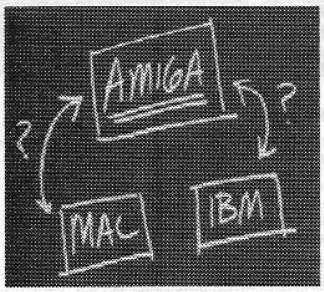
PCM COMPUTERS

VDrive70	70 Meg A500 Hard diskdrive - ST506 28mS NEC mech. 64KRAM Buffer/FFS. Formatted, installed, ready to run. Very fast non auto boot, external power, 12 months warranty.	**$1250**
1.2/1.3	Mod to install Kickstart 1.2 &1.3 in A500's/A2000's	**$60**
1Mb	Convert your A500 to access 1Mb chipRAM..Rev.6.A500	**$30**
ChipRAM	Switchable 0.5M/1Mb Rev.5.A500	**$110**
256x1RAM RAM	Chips 41256-256K x 1 150ns-min. qty. 16 each	**$2.20**
AMIGA 500	A500 Computer system with 1Mb RAM ChipRAM/FastRAM switchable, Ful warranty.	**$940**
A500	Monitor Stand all-steel	**$40**
EPSON	LQ-400 10"24-pin 360 dpi hi-res 180 cps printer	**$530**
EPSON	LQ-550 10"24-pin 360 dpi hi-res 180 cps printer with push tractor/paper park/semi auto-load.	**$620**
DISKS	3.5"DSDD box of 10	**$12**
	5.25" DSDD pack of 10	**$5**
PD Disks	Public Domain Software - per copy (excl. disk) each over 500 disks to choose from.	**$2**
GVP Range	PCM suplies the full range of GVP products including all Hard Drive systems, tape drives and accelerator boards.	

SPECIAL THIS MONTH

VDrive 5.25	5.25" Ext Floppy Drive 70cm 12mm round shielded cable, DB23's, pass-thru, Drive disable & write protect switches, 12 month warranty.	**$230**
PCM501	A500 0.5MegExpansion 0.5Meg expansion board to suit A500 expansion slot. Compatable with A501 but without clock.	**$120**

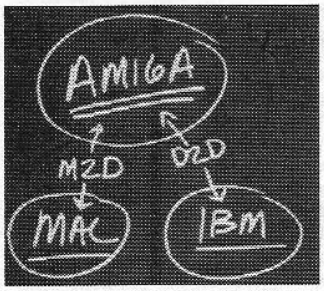
PO Box 70 Noble Park. Vic3174 Ph./Fax.(03) 701-0343
2/28 Ashton Rise. Doncaster East Vic3109 Ph./Fax.(03)841-8889
34 Kidman Ct. Thornlle WA6108 Ph.(09) 459-0609
34 MacDouugall Rd. Gloden Sq. Vic3555 h(054)416-277



PROBLEM

Your boss wants you to produce an animated video presentation to help sell that new project to top management. You know that a full-colour, animated presentation, developed on the Amiga, using it's powerful desktop video software, will make a convincing impact.

The Amiga is the right machine for the job, but how can you easily import the images and data for your presentation from other divisions of the company, data and images which come from the Macintoshes and IBM PCs?



SOLUTION

File transfer programs MAC-2-DOS and DOS-2-DOS from Central Coast Sofrware! Using these simple and easy-to-use Amiga programs, you can now quickly and easily transfer the Mac/IBM/Atari data and images you need to and from the Amiga.

MAC-2-DOS connects a Mac floppy drive directly to the Amiga - Reads and writes 400/800K Mac disks - Converts MacPaint images to/from IFF - Imports Mac clip art for use on the Amiga - Converts ASCII text files both ways - Converts Postscript files both ways - Supports MacBinary format - Includes converson for PICT files and Mac fonts - Creates icons, as necessary - Formats 400/800K Mac disks..

DOS-2-DOS uses your Amiga's floppy drives to read/write IBM/Atari 3.5-inch disks - Read/writes 5.25-inch IBM disks (using an external 5.25-inch Amiga drive) - Converts ASCII text files both ways - Supports international character sets - Formats IBM/Atari disks - Use with IBM program HIJAAK (from Inset Systems, not included) to capture/convert IBM graphic images to/from IFF

CCS

Central Coast Software™

MAC-2-DOS - when it absolutely, positively has to get to or from a Mac disk, immediately.

DOS-2-DOS - when it absolutely, positively has to get to or from an IBM PC (or Atari) disk, immediately.

And to preserve your entire presentation, all supporting data and graphic files, as well as the programs:

QUATERBACK - the fastest and most reliable Amiga hard-disk backup program!

Available from the Official Australian Distributor

AMIGA CITY

Box 6069
Townsville Mail Centre 4810
AUSTRALIA
Tel. 077 72 3372
Fax 077 72 2340

Dealer enquiries welcome

Prime Artifax
Public Domain Update

Support : PHONE (02) 879-7455 ***Credit Card and C.O.D. accepted over the phone.***

FREE ORDER LINE 008 252 879

PUBLIC DOMAIN THEME DISKS

UGA's Newflash - bi-monthly European hacker type magazine for the more advanced user. Glitzy presentation. Lots of info, utilities, how-to articles, reviews and more. Music and graphics too! Issue seven out now. $9.95.

DOUBLE DEMO DISKS

The following are all two disk sets - $8 per set.

DD1 Newtek Demo Reel II
Digitised music from "Art of Noise" accompanies some smart digitisedpiccies and short animation segments.

DD2 Newtek Demo Reel III
Two disk set - animation and still demonstrating various Newtek products. Includes excellence Hi-Res HAM image.Clever animation and digitised sound effects.

DD3 Artscape rolling demo.
Excellent ray traced images. Director presentation and good digitised piccies.

DD4 Walker Demo One.
Requires 2MB. Fantastic animation of walker from "The Empire Strikes Back" passing in front of an Amiga 2000.Digitised sound effects. Very impressive.

DD5 Walker Demo Two.
Requires 2MB. Part two - narrow screen animation. Won various awards. Walker plus helicopter battle in Chicago streets.

DD6 Northstar Demos.
British and European graphic tricks, hacks and music. Many short demos on both disks - auto loading each in
sequence. Some excellent, most with very good music. Clever programming tricks.

DUT DOS Utilities.
Disk copier, track and sector editor, boot-block maker plus various other utils. $8.95

AVP Anti-Virus PAK.
Version 12. Handles over 44 known viral strains. Includes powerful PVL boot block protector and programs to handle link virus types. Printed instructions included. $14.95

WORD PROCESSING AND TEXT EDITORS

TEX Text editor theme disk.
Iincludes all popular text editors plus spell checkers and demo of Txed. $6

WOR Word Processing disk.
Public Domain Wordprocessor. $6

Many more catagories coming soon!
Huge collection of animation and sanned piccies now being catalogued.

FISH DISK LISTING UPDATE

Fish Disk #341

P2C
P2C is a tool for translating Pascal programs into C. It handles the following Pascal dialects: HP Pascal, Turbo/UCSD Pascal, DEC VAX Pascal, Oregon Software Pascal/2, Macintosh Programmer's Workshop Pascal, Sun/Berkeley Pascal. Modula-2 syntax is also supported. Most reasonable Pascal programs are converted into fully functional C which will compile and run with no further modifications. This is version 1.13 and includes source

Fish Disk #342

IE
This is an icon editor which can create and modify icons up to 640x200 pixels in size (also dual render). It can set stack size, position of icon (also free-floating), default tool, 10 tool types and control over opened window. It can also generate the C source code behind the icon for program inclusion. Version 1.0, binary only, source available from author

SKsh
A ksh-like shell for the Amiga. Some of its features include command substitution, shell functions with parameters, aliases, local variables, local functions, local aliases, powerful control structures and tests, emacs style line editing and history functions, I/O redirection, pipes, large variety of built-in commands, Unix style wildcards, Unix style filename conventions, filename completion, and coexistence with scripts from other shells. Very well documented. Version 1.4, an update to version 1.3 on disk 309. New features include a "tiny" version, a working case construct, support for resident commands, smaller and faster external commands, and more. Binary only Setfont Converts portrait soft fonts for HP LaserJet compatible laser printers to landscape format. This is an update to the version included on disk 327. Includes source

Fish Disk #343

SnakePit
A simple, yet addictive game in which you must get the snake (you) off of the screen. There are, however, some rough spots and some obstacles that may need to be overcome. An excellent example of a game that is as system friendly as possible. Includes source

SoftSpan
Soft Span BBS program. Intuitive, command-line based menu system with message bases, up/down loads, file credit system, extensive help system, etc. This is shareware version 1.0, binary only, lattice C source code available from the author.

StockBroker
A program that helps you follow the recent table of exchange from one (or more) share(s). But of course you must tell the Amiga the recent table of exchange every day. Requires AmigaBASIC. Binary only

Fish Disk #344

Keyboard Functions to translate RAWKEY Intuition messages into usable keycodes. Translation into Modula-2 of C source (by Fabbian G. Dufoe, III) on disk 291. Version 1.0. Includes source RKMCompanion A two disk set of material created by Commodore for use with the 1.3 revison of the Amiga ROM Kernel Reference Manual, Libraries and Devices, published by Addison- Wesley. Almost 300 files, including C source code examples and executables, have been packed into two lharc archives, one for each disk of the two

ORDER FORM

Send cheque or money order made out to Prime Artifax, or use your credit card.

Name:_____ Day Phone:_____

Address: _____

Post Code: _____ Credit Card (tick) VISA ❍ M/C ❍ B/C ❍

Number: ❑❑❑❑ ❑❑❑❑ ❑❑❑❑ ❑❑❑❑ Exp: ❑❑/❑❑

Signature: _____

Order: _____

POST TO: Prime Artifax, P.O. Box 288, Gladesville 2111

(Allow $2.50 for postage air mail where possible. N.T, W.A. and S.A. are $5)

Prime Artifax Public Domain Update

Support : PHONE (02) 879-7455 ***Credit Card and C.O.D. accepted over the phone.***

FREE ORDER LINE 008 252 879

disk set. These examples are not public domain, but may be used and distributed under the conditions specified in the copyrights

Fish Disk #345

CRobots
A game based on computer programming. Unlike arcade type games which require human input controlling some object, all strategy in CRobots is condensed into a C language program that you design and write, to control a robot whose mission is to seek out, track, and destroy other robots, each running different programs. All robots are equally equipped, and up to four may compete at once. This is version 2.3w, an update to version 2.2w on disk 331. Binary only, source available from author

Du
Prints number of disc blocks used in selected files or directories. Modified from original version on disk 48 to make output more readable, and handle ^C exit. Includes source

GetImage
An enhanced version of "gi" from disk 14. It now looks for the GRAB marker, in the brush file, instead of assuming that it is at a specific place, sets up the PlanePick value in the Image structure, and deletes any unused bitplanes to save memory and disk space. Includes source

MemFrag
Displays number of memory chunks/sizes to show memory fragmentation. Chunks are displayed as 2**N bytes which is a rough guide but still useful. This is an enhanced version of "Frags" from disk 69. Includes source

Roses
A program that draws sine roses. Implements an algorithm given in the article "A Rose is a Rose ..." by Peter M. Maurer in American Mathematical Monthly, Vol 94, No. 7, 1987, p 631. A sine rose is a graph of the polar equation "r = sin(n*d)" for various values of n and d.

Unshar
This program extracts files from Unix shar archives. It scores over similar programs by being small and fast, handling extraction of subdirectories, recognising a wide variety of 'sed' and 'cat' shar formats, and handling large files spread across several shar files. This is version 1.3, an update to the version on disk 287. Includes C source

VcEd
A Voice (Tone) Editor for the Yamaha 4 Operator series synthesizers. Binary only, source available from author.

X2X
Cross converts between Motorola/Intel/Tektronix ASCII-hex files. These files are typically used for down- line-loading into EPROMS, or for transmission where binary files cause chaos. Handles S1, S2, S3, INTEL (inc USBA records), Tektronix (inc extended). Source included

Fish Disk #346

Az
A nice little text editor that is fast, simple to use, and very Amiga'ized. This is version 1.50, an update to version 1.40 on disk 228, with lots of new features, bug fixes, and other improvements. Binary only

CassEti
Cassette tape label printer. Includes source in GFA Basic FME Patch to AllocMem() to allow badly designed programs which request fast mem without necessity to be run on 512k machines. Includes source in assembler

GoWB
Very small (296 bytes) and effective replacement for the well known "LoadWB" and "EndCLI" command pair. This release fixes a severe bug in the first version which used to guru if run out of a script. Includes source in C

PacketSupport
A link library, for use with Lattice C, providing a few functions to handle DOS packet postage. Includes source PatchNTSC OS fix to allow the growing number of PAL display programs to be run on NTSC machines. Will patch the Intuition OpenScreen() function to assure screens with PAL height to be opened in interlace mode. Includes source in assembler

TextPaint
Second major release of the Ansi editor. All major bugs have been fixed, and a bunch of new options have been added, e.g. possibility to reload ansi files or CLI modules, 4 color option, optimized keyboard layout, new drawing modes, right mouse button support (like DeluxePaint) and much more. Binary only, shareware

Timetest
Working example to show the time() and gmtime() functions of the Lattice C support library. Includes source in C WBD Possibly the smallest utility to set the workbench screen to any depth. Includes source in C

Fish Disk #347

Cursor
A 3-pass BASIC Compiler for BASIC programs written in AmigaBASIC, does not yet support all of the BASIC commands but is able to compile itself. This is version 2 1.0, includes source

Drip
Drip is an arcade style game with 15 floors (levels). You must move along the pipes of each floor and rust them to advance to the next level. Every 3 floors completed will entitle you to a bonus round where extra drips can be won. An extra drip will also be awarded for every 10,000 points. Binary only

Fish Disk #348

ColorReq
Describes the update to the color.library and has an example program, with source, that demonstrates its use DisEditor This is a demo of the dissidents shareware text editor. Version 1.1, binary only

DisSecretary
This program can be used to file information in a "file cabinet" type environment. It is well suited for jobs such as maintaining a disk catalog, or user group membership, etc. Included is a data file of the library catalog, disks 1 to 310. Version "Wanda", binary only

FileIO
Contains updated files for version 1.6 of the dissidents requester library. There is a bug fix to the library as well as a new function. See disk 257 for the complete documentation, and examples

ILBMLib
Contains updated files for the dissidents ilbm.library on disk 237, with new lib features and a new library. Also included is a much improved (better organized) doc file, and new C examples that show how to use the library for any kind of IFF file. See disk 237 for other examples

InstallLibs
A program to copy files to the LIBS: dir of a boot disk. Can be used to create a handy installation program (hard disks especially) for programs that need disk-based libraries. Includes source

SAMP
An IFF sampled sound format designed for professional music use. It can be used for 16-bit samples, multiple waveforms, etc. Includes a SAMP reader/writer shared library, interface routines, and programming examples. Also includes a program to convert 8SVX to SAMP

Fish Disk #349

MED
A music editor much like SoundTracker. A song consists of up to 50 blocks of music, which can be played in any order. Editing features include cut/paste/copy tracks or blocks, changing the vibrato, tempo, crescendo, and note volume. Other features include switching of the low-pass-filter on or off on a per song basis, and a cute little animated pointer of a guy doing "jumping jacks" in time to the music! This is version 2.00, an update to version 1.12 on disk 255. Now includes full source

Fish Disk #350

Icons
A large variety of icons for many uses, of practically every description. Most are animated MemMometer A programthat opens a narrow window and graphically displays your memory usage like a gauge. Based on WFrags, by Tomas Rokicki. Version 2.10, includes source

Stitchery
This shareware program loads in IFF images and creates charted patterns from them for use in counted cross- stitch and other forms of needlework. It requires one megabyte of memory to run, and works best with a good high-resolution printer for printing the patterns. The Stitchery was written with The Director and the Projector is included. Version 1.21

TrackUtils
Two utilities that deal with disk tracks. TCopy copies one or more tracks from one disk to another, and is useful for copying part of a floppy disk into RAD: during bootup. TFile creates a dummy file which "marks" a specified range of tracks, preventing AmigaDOS from using them and allowing them to be used for raw trackdisk data. Includes C source

Fish Disk Quantity Discounts

1-5 disks	$6.00 each
6-10 disks	$5.50 each
10 or more	$5.00 each

Place your order now!

Bridging The Gap: Using Bars & Pipes

By Melissa Jordan Grey

Who better to provide an in-depth guide to Bars and Pipes, an impressive MIDI music sequencer, than the co-author and designer herself?

I've been told on more than one occasion that music is the universal language. I agree, although I realize that with any language, there are the literati, those who so brilliantly breathe life into every word they exhale, and the pupils, those who are eager to learn yet still not fully capable of creating great works. With this disparity in mind, my partner, Todor Fay, and I set out to create Bars & Pipes.

Bars & Pipes is the first object-oriented musical composition environment. Unlike the average MIDI package, Bars & Pipes incorporates higher levels of musical knowledge. It goes beyond just the ability to quantize, cut and paste your musical input and provides you with the ability to create sophisticated harmonies, chord substitutions, special effects and algorithmic compositions, just to name a few.

Most importantly, whether you're a musical genius, tone-deaf or somewhere in between, you're now bound only by your creativity and individuality. To better understand Bars & Pipes, let's take a look at the program's four major components.

The Pipeline

The Pipeline guides your musical input from conception to performance. We call it the Pipeline because it actually resembles the kind of plumbing that exists beneath your house or home unit.

By arranging the pipe and valve icons, you can direct the flow of musical information on a track-by-track basis. You can even connect two or more tracks together by using special connector icons. To each Pipeline, you assign a track name. No limit exists to the number of tracks you may record.

Essentially, the Pipeline consists of two parts - the preproduction side and the post-production side. To understand the flexibility this offers, you first must understand the Toolbox.

The Toolbox

The Toolbox contains dozens of modules that process MIDI information as it flows through the Pipeline. We call these modules Tools. Each Tool functions by musically enhancing the notes you've input. A few examples:

■ The RANDOMIZER takes your input and randomly varies its timing. This Tool is especially handy when trying to attain a minimalistic or impromptu feel to your composition.

■ The HARMONY GENERATOR provides interval harmonies to a melodic line you've input. Simply specify both the interval and key signature and this Tool will embellish your composition.

■ The CHORD INVERTER allows you to set high and low note boundaries and octaves. Thereafter, you are able to play a series of chords in whatever way is technically comfortable, yet the chords will sound as inversions with proper voice leading. This Tool is especially handy for those whose primary instrument is not the keyboard.

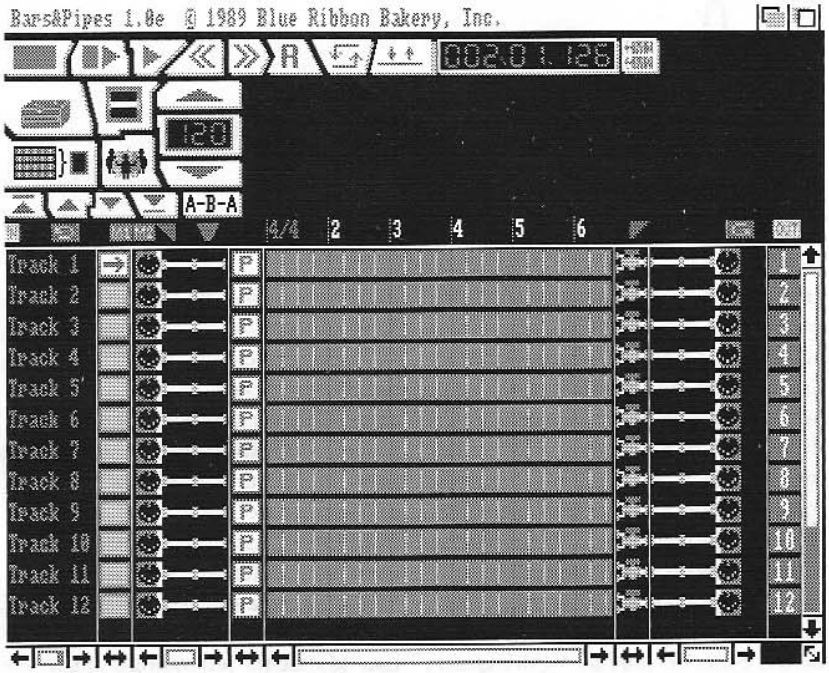
(For you untrained musicians, here's an explanation. Harmonic chord inversion occurs when the lowest note of a chord, the root, is in an upper position instead of in the bass. This is done so that one chord will connect smoothly with the next.)

■ The KEYBOARD SPLITTER allows you to divide what you play on the keyboard into two different tracks. For example, you could direct your right hand, which typically plays the melody, onto the trumpet track and your left hand, which typically plays the accompaniment, onto the organ track.

As you can see, some Tools are musical in nature, while others perform the more technical of tasks. Some even provide graphic applications or act as hooks into compatable programs. Others, still, act as building blocks in the design of Tools you create. All Tools can be customized to your specifications.

One of the most powerful aspects of the Toolbox is its open-ended nature. You can program your own Tools or use Create-a-Tool to assemble MacroTools. Create-a-Tool allows you to combine any configuration of Tools into one in order to save time when using a common succession of Tools or to create a specialized Tool of your own design.

For example, you could assemble a MacroTool which consists of a Tool that randomly selects and plays notes and rhythms with a Tool that



filters out all notes but those in your preselected key. This way, you would achieve a random effect within key and scale/mode boundaries.

Assembling a MacroTool is easy. The Create-A-Tool Window allows you to import your building-block Tools of your choice directly from the Toolbox. Drag the appropriate icons onto the Pipeline template and place them in the desired order. Create-a-Tool lets you paint in your MacroTool icon by using the Create-a-Tool easel and palette.

After you've painted, named and assigned an identifier to your MacroTool, it automatically becomes part of your Toolbox to use as you would any other Tool.

The Sequencer

Graphically, the Sequencer sits in the middle of each Pipeline, dividing the pre-production (left) side from the post-production (right) side. Functionally, the Sequencer records MIDI data which flows in from the left side of the Pipeline and plays it back, passing it through the right side of the Pipeline.

Among other things, the Sequencer allows you to view graphically what you've recorded as well as cut, copy and paste all tracks at once. Its Looped-mode Recording option allows you to record one section of your music repeatedly until you arrive at your performance of choice.

The Editor

Bars & Pipes' Editor was designed with amateur and professional musicians in mind. For those who can read music, a staff displays notes on a treble and bass clef. For those who do not read standard classical notation, a piano roll displays the notes.

Regardless of which system you prefer, Bars & Pipes provides full editing capabilities with each. Our goal in designing the Editor was to allow the composer as much flexibility as possible in editing his or her work. I call this the "one-size-fits-all principle."

In other words, if you want to draw in a note, we give you that option. If you want to type the note in the information window, we give you that option. Or, if you want to play in the note via your input device (keyboard, wind controller, etc.), you guessed it, we give you that, too.

Now that you're familiar with Bars & Pipe's four main components, I can explain the power of the Tools concept.

Power Tools

Bars & Pipes' flexibility lies in the interaction between the Pipeline, Sequencer, Toolbox and Editor. To take advantage of this unique flexibility, simply drag a Tool onto either side of the Pipeline or place it into the Toolpad in either the Main or Edit Windows.

An example of each scenario. As previously mentioned, the Pipeline has two sides, the left side, which is the pre-production end and the right side, which is the post-production end. If you drag a Tool onto the "pre" side of the Pipeline, as you hit a key on the (musical) keyboard, the note passes through the Tool and is recorded exactly as you played it.

For example, if you drag the Echo Tool onto the "pre" side of your bass line track, each time you strike a key on the keyboard, the note will sound with an echo. If you place the Flip Tool next to the Echo Tool, each note will sound with an echo and be flipped over the note axis you specify. All notes processed by Tools placed on the "pre" side of the Pipeline will be recorded into the Sequencer onto disk.

The post-production side of the Pipeline utilizes the Tools in a different manner. Instead of affecting notes before they are recorded, they affect notes only on playback. At first glance, this may seem trivial, but take a look at some examples

and you'll better understand this concept.

Suppose you've recorded a track only to find that what plays in your head isn't necessarily translated through your fingers. In other words, the whole thing was a sloppy mess. By dragging the Quantize Tool onto the "post" side of the Pipeline, you can clean it all up.

This time, when you play back that track, the notes will sit neatly on the beat. To take away the Quantize Tool, remove it from the Pipeline and your music is returned to its original state. Or, instead of removing the Quantize Tool altogether, you could readjust the Quantize parameter values. In either case, because Tools on the "post" side only affect notes on playback, nothing changes in the recorded sequence.

But, you say, most sequencers do that in one way or another! Ah, but here's the difference. While other programs allow you to quantize and "un-quantize," they don't allow you the same freedom with other forms of data manipulation such as echoing, randomizing, harmonizing, note filtering and so on.

Bars & Pipes' adaptable Pipeline encourages you to experiment and take risks while composing and performing. This flexibility manifests itself during exploration with Tools that provide special effects and stylistic musical changes.

By interchanging your options, for instance the Flange Tool for the Arpeggiation Tool, you can best find the appropriate musical treatment without having to copy a backup track in case you don't like what you've changed.

Higher Levels of Musical Knowledge

I mentioned much earlier in this article that Bars & Pipes incorporates higher levels of musical knowledge, but what does that mean? Higher levels of musical knowledge refers to the inclusion not only of technical concepts rooted in computer science, but also of concepts related to music theory and composition. For widespread use to occur, technology must assimilate itself into the cultural mainstream.

This involves speaking the proverbial native tongue. In Bars & Pipes' case, we are referring to music as it existed long before the advent of computers. Before I explain how we integrated theoretical knowledge of music into Bars & Pipes, let's examine some of the basics.

The first basic is the key signature. A key signature, designated by the sharps and flats appearing at the beginning of each staff, indicates the key, or tonal centre, of a composition.

Now, what is a tonal centre? The tonal centre is the single note around which your music revolves. In the key of "C major," this is the note "C". In the key "Ab minor," this is the note "Ab." For nearly every piece of music composed, a key can be ascertained and assigned.

The key, and hence the key signature, provides a framework for composition.

Directly related to keys and key signatures are scales. A scale, in its simplest definition, is a series of notes ascending from a specific note. Every type of scale is formulaic in nature; each is determined by half-step and whole-step relationships stemming from the tonal centre. (On a piano, "C," a white key, is a half step from "C#," a black key, and a whole step from "D," another white key. Although not every white key is a whole-step from the white key next to it and a half-step from the black key next to it, for the most part, this is true).

For example, the formula for a major scale is to begin with the tonal centre and progress a whole-step (W), W, half-step (H), W, W, W, H. (All the white keys in succession from "C" to "C" on a keyboard). Minor scales are a bit trickier as there are several types.

Although most music fits into either the Major or Minor scales, many other scales exist. Some of these are the Whole Tone, where every note is a whole-step beyond its predecessor, the Chromatic, where every note is a half-step beyond its predecessor, the Pentatonic, containing only notes 1,2,4,5,and 6 of the major scale, and the Gypsy, whose formula is W, H, W+H, H, H, W+H.

Now, chords enter the picture. Chords consist of three or more notes played at once. Many types exist, although major, minor and derivations of these two types most commonly appear in popular music. Basic chords can be formed by taking the first three of every other note in a scale and playing them at once. Sound confusing? Let's look at an example.

A "C major" scale consists of the notes "C,D,E,F,G,A,B,C." To form a triad (a chord with only three notes) in this key, pick a root note (the bot-

tom of the chord) and build up from it by choosing every other note in the scale. A "D" triad in the key of "C" consists of the notes "D" "F" and "A." An "F" triad in the key of "C" consists of the notes "F" "A" and "C." By skipping every other note, you can form basic triads within a key.

Every triad or chord conveys a certain emotional tone. For example, minor chords are often used to project sadness, anger or seriousness, while major chords tend to sound happy and pure. Since a major scale contains seven distinct notes, seven basic triads exist within the scale.

In other words, a triad can be constructed by using each note of the scale as the bass note - "CEG," "DFA," "EGB," and "FAC" are the first four triads in the key of "C."

More specifically, rules govern the "flavour" of each triad as it relates to the key. In a major scale, for example, the triad built on the second note in the scale is always minor. The triad built on the third note is minor, too, but the triad built on the fourth note is major. If you have a keyboard available, play the triads moving note by note up the "C major" scale and you will hear the difference in tonal quality.

Some triads are major, some are minor. (The triad built on the seventh note is "diminished" in quality, but since this article is limited in size, I won't branch into aspects of music theory that would explain this). Major triads are based on the interval formula "root note + two whole steps + a whole step and a half." Minor triads are based on the formula "root note + a whole step and a half + two whole steps.

Time signature and rhythm are also important elements in musical composition. A time signature appears at the beginning of a piece as two numbers, one above the other. The lower indicates the type of note that will be used to measure each beat, (half note, quarter note, etc.), while the upper indicates the number of such beats per measure. 4/4 is by far the most common time.

Signature

Time signatures provide the basic rhythmic framework of a piece. Though most popular music, such as rock-n-roll, rhythm and blues, and funk, tend to be in symmetrical meters (2/4, 4/4, or 6/8), uneven meters (3/4, 5/4) often lend a fresh feel and unpredictability to music.

Rhythm, in its simplest form, is the motion of your music. Beats of varying lengths are organized into rhythmic patterns. Rhythms can be simple or complex, on the beat or off the beat. Certain styles of music are noted first and foremost for their rhythmic form.

For example, Samba music is characterized by syncopated rhythmic patterns (where the beat is shifted to the upbeat, or second half of the beat) over a 2/4 meter and Shuffle is known for its triplet-based feel in 4/4 time.

Key, scale, chords, time signature and rhythm combine to form the underlying structure of traditional music. (I say traditional music because there are always those who love to break the rules). These elements comprise the building blocks of composition. Consider them your springboard into musicality.

In designing Bars & Pipes, we sought to encompass this knowledge by assimilating key, scale, mode (which we did not discuss due to its complexity), time signature and rhythm. By opening the Editor for any track and selecting the key, chords, rhythm and time signature options from the Display menu, you access a palette of compositional options.

The Key option provides you with a selection of keys, scales (major, minor, chromatic, whole-tone and gypsy) and modes (Aeolian, Locrian, Ionian, Dorian, Phrygian, Lydian, and Mixolydian). Simply pick the key or root note and select the scale or mode of your choice. If you don't see a scale you like, you can create it by clicking on the graphic keyboard display.

From then on, Bars & Pipes displays the key signature on the Staff Editor and illuminates the appropriate keys on the scale or mode on the piano roll. Also, Bars & Pipes furnishes a "snap to" option which snaps any notes you input into the selected key and scale/mode.

The Chords option presents you with an assortment of chord types including major, augmented, major7, major6, dominant7, minor, minor-6, minor+5, minor6, minor7, minorMA7, diminished, minor7-5, diminishedMA7, dominant 7-5, major9, dominant7-9, dominant9+5, dominant7 -9/+5, and the list goes on. Like the scale/mode feature, you can create your own chords should you fail to find one of your liking.

By picking the root note and chord type, you can map out the chordal structure of your piece and,

if you so choose, have Bars & Pipes score in your selected chord progressions on whatever track you specify. If you have chosen a key and scale/mode type, Bars & Pipes will enter the proper triad based on the root note of your selection.

The Rhythm option stems from our attempt to plug a MIDI cable directly into your brain. This feature came about because we realized that some rhythms, while difficult to map out, are simple to tap out. Why require someone to calculate the beats when he or she can tap them directly and allow Bars & Pipes to analyze them rhythmically?

In order to take advantage of this feature, mark off the measure(s) in which the rhythm will occur and choose your rhythm from the provided template list. To add your own rhythms to this list, transfer any recorded sequence into the template list. Creating your own rhythms is as simple as tapping them directly onto a track.

The Time Signature permits a different time signature to be assigned for every measure that exists in your sequence. This enables you to experiment with a multiplicity of beat resolutions.

Standard time signatures are provided. However, in keeping with the "one-size-fits-all principle, you can even input signatures as bizarre as 77/8 or 36/2. To enter a time signature, select one from the predetermined palette or enter your own.

These four options, Key, Chord, Rhythm and Time Signature, can be used globally as well as on a track-by-track basis. They combine to form the variables necessary for many Algorithmic Composition Tools. For instance, the Accompany B Tool generates notes using the rhythm template for articulation, dynamics and rhythm, and the chord template to determine the note value assigned to each element of the rhythm.

Another feature of musical composition is lyric writing. Lyrics are words which accompany music. They exist in opera, pop, jazz, heavy metal, church music and many other musical forms. Lyrics can verbally reinforce a composition's tone or contradict that tone altogether.

This stylistic choice, as well as what type of meter, rhyme scheme, and rhythm, can complement the music and add an extra layer of meaning. Be careful, though, that your lyrics don't distract from the underlying composition of your piece.

In recognizing that not all music is purely instrumental, Bars & Pipes allows you to enter lyrics directly above the measures in which they occur. To do so, first select the Lyrics option from the Editor's Display menu. Then, access the Lyrics requestor by clicking where you'd like the lyrics to begin.

In the requestor, type in your lyrics and indicate the phrase length in measures over which the lyrics will occur. Click on the okay button and from then on, your lyrics will occur over the proper measures. You can of course, edit your words or rearrange them on the screen as you like.

Organizing Your Music

Music, like any other language, consists of letters (notes), words (measures), phrases, (groups of measures), sentences (sections), and paragraphs (movements). There are introductions (intros) and conclusions (codas). There are acts (movements) and intermissions (tacets). And just as stories can be broken down into one of several plots, music can be divided into one of several typical chord progressions.

Music, like any language, has structure. (Even the most avant garde of compositions has a beginning and an end.)

Breaking the music down into sections facilitates tighter composition. By setting up a paradigm of sorts, you can carefully map out your ideas and present them in a polished manner. True, rules were made to be broken, but it's better to know you're breaking them than to break them without knowing it.

Most contemporary music can be broken down into sections. In pop music, section "A" is typically the verse, section "B" is the chorus and section "C" is the bridge. Patterns of pop songs usually manifest themselves as A-B-A-B-C-B-A-B-B. Of course, variations exist, but by and large the A-B-A... pattern is most common.

With Bars & Pipes, you can compose in sections by designating a letter for each section of your song. "D" can be the intro, "A" the verse, "B" the chorus and so on. Formerly, composing meant that you needed to transcribe every measure of your composition by hand, even the sections that were mere repetitions of those earlier.

By using Bars & Pipe's "A-B-A" Song Construction and Editing fea-

ture, you can map out your piece and enter only once those things that repeat during recurring sections. To do this, click on the A-B-A View button on the Main Screen to access the A-B-A Requestor. Type in the order of your song, section by section, indicating either the length of each section or from what measure to what measure each section occurs.

From then on, you have the option of laying a recurring foundation or embellishing similar sections as the song progresses. Rearranging your song is as simple as editing the letters in your A-B-A string.

We created the Groups function to design a system that benefits from both the compositional experience of hundreds of years and the recent innovations springing from the birth of MIDI. This feature comes into play during two phases of the modern musical process - composition and mix-down.

Specifically, the Groups function enables you to work with several tracks at a time. You can mute, solo, copy, load and/or save each Group, you can use any Tool on each Group and you can transpose and time-shift each Group. Bars & Pipes permits up to eight Groups at one time.

Selecting Groups is simply a matter of choosing the group number (numbers one through eight) and assigning the member tracks by clicking on each one. A track can belong to several Groups at once.

During composition, Groups can used in a number of ways. For instance, when working on the accompaniment section of a tune, you can assign all parts involved to one group. By recording the accompaniment into all Group tracks at once, you avoid playing the same thing over and over.

Once the basic accompaniment line is recorded, you can modify each track within the Group, time-shifting some, transposing some and leaving others alone. Or, you could use a different Tool on each track in the Group. Either way, your musical line shifts timbres, octaves, and/or actual notes providing musical elements which are at once continuous and contrasting.

In another example, you could isolate select tracks into a Group, then affect the entirety with a special effects Tool such as the Echo Tool. This way, only that segment of your composition exhibits an echoing quality.

Groups ease the complexities of mix-down, too. In the past, when the time came to transfer the music from disk drive to analog recorder, I had to write down which aggregate of tracks would be assigned to which band on the reel-to-reel recorder. Because the reel-to-reel only synchronized eight tracks, I had to bundle several MIDI tracks onto one analog track. My old music software, however, failed to provide me with a method of organizing.

So, I reverted to the ol' pen and paper method (which I inevitably misplaced every time). With the Groups function, you no longer have to use pen and paper to organize. Instead, simply assign the tracks into Groups and solo each entire Group as you mix it down.

Dynamics, Phrasing, Articulation and Tempo

Another important element of composition involves the assignment of Dynamic Markings. These indicate the volume at which each section of music should be played. If you're familiar with classical notation, you will recognize these markings as the following lower case letters: "pp," "p," "mp," "mf," "f," and "ff."

These abbreviations stand for pianissimo (very soft), piano (soft), mezzo piano (medium soft), mezzo forte (medium loud), forte (loud) and fortissimo (very loud) respectively. A crescendo gradually increases the volume. The inverse is true of a diminuendo. Without dynamic road signs, music sounds stagnant and lifeless.

The proper use of dynamics focuses attention on and away from various segments of a piece. And ironically enough, sometimes a quiet section of music is easier to hear than a loud one.

This brings to mind the phrasing issue as well. Phrasing is a means of shaping the linearity of your music. It's a stylistic choice of emphasis, just as you verbally give emphasis to certain words within a sentence and certain sentences within a paragraph. Phrasing connects musical thoughts and gives them continuity.

Articulation occurs within a musical phrase. A form of musical punctuation, articulation connotes the attack and duration of each note. Several types of note articulation exist. The following are most common.

Staccato, signified as a dot above a note, indicates a duration of

usually 1/4 its full length value. Portato, signified by the absence of a marking above the note, indicates a note duration of 1/2 its full length value. Leggerio, signified as a horizontal line above a note, indicates a note duration of usually 3/4 its full note value, and Legato, signified with an arched line above a series of notes, indicates a note duration equal to its full value with no perceptible space between each note.

In many forms of articulation, dynamics play an important role. In these situations, not only is a note accented in a specific manner, but the note's character assumes a distinct volume. A good example is the sforzando (sfz), a mechanism by which a note is heavily accented, then sustains a volume above that of the previous note.

With another form, a sforzando piano (sfzp), notes are punctuated by an accent, then followed by a reduction in volume. You can see that varying degrees of punctuation and dynamics add more dimension to a piece.

Just as a connection exists between phrasing and articulation as well as articulation and dynamics, so exists a link between dynamics and phrasing. A phrase, you see, should assume some form of dynamic character.

For example, a phrase could start off softly and slowly progress in volume only to recede by the phrase's end. Or, a phrase could continue to build in volume, hitting a pungent chord in its climax. Whatever its shape, a phrase should not stagnate or the listener will quickly tire of of it.

Dynamics, phrasing and articulation interrelate significantly. These factors transform notes on a page (or notes entered via a MIDI device) into music laced with emotion and texture. Opponents of computer music often criticize it for being mechanical in nature. To a great degree, I concur.

In fact, in the past I have neglected the importance of phrasing, articulation and dynamic variation in my own computer-assisted composition. After years of playing acoustic instruments, I took these forms of expression for granted and failed to realize that without that expression, my music would merely be a succession of notes.

My computer-aided compositions failed to address dynamic variation in part because the software never considered dynamics a factor in composition.

Once again, enter Bars & Pipes. Bars & Pipes allows you to set a dynamic level, shape the phrasing and enter articulations for every note in your composition.

To set the dynamic level, select a singular dynamic marking (ff, f, mf, mp, p, pp) from the Editor's Dynamic Button menu and draw in the appropriate note with the Editor's Pencil. Or, use the global or track-by-track Dynamics option, which allows you to enter dynamic levels as well as crescendos and diminuendos, to affect notes already input.

To shape the phrase, either scale the Editor to encompass the entire length of the phrase and draw in the shape of the phrase with the Velocity option in the Editor's Display Menu, or use the Phrase-Shaper Tool, which determines the shape of your phrase based on what you've entered into the Dynamics option.

To enter articulations, either use an appropriate articulation Tool such as the Sforzando, Sforzando Piano, or Accent Tools, or select one from the Editor's Articulation Button menu and draw it in accordingly.

A fourth element, tempo, provides diversity to your music without changing a single note. By definition, tempo is the speed at which the music is played. But, music which clings strictly to a single speed sounds monotonous and mechanical. A drummer's rhythmic fallibility or a horn player's occasional lack of intonation give music its human quality.

You see, music isn't the notes that are played so much as it is the way those notes are played. True, a fine line exists, but this line differentiates an assemblage of notes from the real thing, MUSIC.

Music is the encapsulation of emotion. Computers have no emotions, therefore it's up to you to supply this element. Bars & Pipes is designed to aid you with this supplementation. With its Tempo Mapping feature you can gradually speed up the tempo (accelerando) or conversely, slow it down (ritardando or rallentando). (Ritenuto is the immediate reduction of speed.)

To alter the tempo, click on the metronome on the Main Screen. Fill in the starting and ending times in either real time -- hour, minutes, seconds and frames -- or measures -- beats and clocks. Determine the ending tempo. Then, select from one of four tempo curves - linear, exponential, logarithmic or instant.

Related to the tempo/timing is-

sue is quantization. Quantizing is a means of conforming input notes to a specific beat or beat fraction. By quantizing, you can "clean up" sloppily played notes. In the past, some sequencers provided methods of quantizing that were rigid and based on beat divisions of two. Systems like this ignored styles of music that are based on a triplet feel (beat fraction of three).

Bars & Pipes' Quantize Tool takes into account not only the triplet feel, but also considers whether the beat should be anticipated, handy in composing funk, or "laid back," for instance, with a walking jazz bass line. You can set the accuracy so that you can emulate the worst of musicians, 0% accurate, or the best, 99% accurate. (Only a machine can be 100% accurate).

You can set the parameters so that only notes falling within a determined clock region will be quantized. All these parameters help attain a less automated, more human feel. Best of all, beacause quantizing is implemented as a Tool, new quantizing applications can always be added.

Explore!

This article is by no means a complete tour of Bars & Pipes. For that, you'll need to contact Blue Ribbon Bakery, Inc. directly. Regardless of what system you use for composing, remember that no software, even the most learned, can write for you.

You must strike the keys. You must make artistic choices. All the bells and whistles in the world won't make a difference if your signature isn't firmly inscribed across your music.

A saxophonist with whom I once studied told me that a good musician can play one note and make it swing. Although I didn't understand what he meant at the time, I later realised that music isn't a fancy array of notes that only the technically adept can master and it isn't necessarily what the majority wants to hear. Music is, however, honesty without words and the confidence to express.

With Bars & Pipes, we have provided you an abundance of musical expertise. But what we cannot give you, at any price, is the courage to create. That, I'm afraid, is yours for free.

❑

ef'fi-cà-cy, *n.*

power to produce effects or intended results.

Not everyone needs the ability to typeset complex mathematical equations or complicated tables. Many can do without the accents and special characters required for foreign languages. People even exist who don't want a powerful macro facility in their document production system. Ligatures and kerns are overkill for some documents. But your documents are more than just simple letters.

Some people shun included IFF/ILBM images or ARexx compatibility. A few are willing to hyphenate by hand, or accept poorly spaced lines. And some people will accept the jaggies—output at less than the full resolution of their printer.

But the quality of your documents is important to you, and your typesetting needs are more than the average person's. You are trying to create high quality books, technical reports and other documents. You need

AmigaTEX

If you are fair dinkum about putting words on paper, write for your free demo disk. Move up to the power of AmigaTEX. What else will provide the power, the beauty, and the speed you want?

Baldon Pty Ltd

17 Wilkinson St • FLYNN ACT 2615 • (06)2591226

Professional Amiga Solutions - An *Introduction*

If you're new to the Amiga, or a visitor to the SMPTE show, the following article is for you!

Many of us casually brush over the complexities of technology, the hundreds of man-hours, dozens of small cottage industries, years of expertise and months of developement which can stand compactly presented in the power of one computer - such as the Amiga 2000. However, as you grow to appreciate what has been made possible as developments in these industries progressed, the entire scene takes on a different feel.

Indeed, the marriage of hardware, firmware, operating system and software is a marvelous thing. However, rarely does this union have the opportunity to be presented as clearly and accessibly as at the Commodore Amiga Event at this years SMPTE sound and vision show.

Commodore have clearly demonstrated a strong commitment to the Amiga in the areas of multimedia, video, desktop-publishing and graphic design. From broadcast quality applications, to office tasks, the Amiga is capable of both. One machine can provide a complete solution to budget studio requirements.

Powerful Hardware

When the Amiga was first launched, it astounded people with the amount of power crammed into this machine that seemed to do things previously only possible with hardware costing four or five times the price. That situation has not changed. Amazingly, after five years the Amiga continues to hold a price advantage at the hardware level.

Combining the power of multitasking, custom graphic chips and the speedy 25Mhz Motorola 68030 processor, few machines could hope to match the flexability and sheer power of the Amiga for under $6,000. Of course, these specifications are by no means the limit to what will be available. Enhancement cards using improved microprocessors are being developed which will take the 68030 up to speeds of 50Mhz and see the arrival of a 68040 version too.

Software developers have been quick to recognise the potential og the Amiga. Today, there is a wide selection of programs covering a diverse range of areas.

From Video Titling to Animation

Amiga is the most video ready desktop computer available. The graphics resolutions, colour palette and wide range of titling, animation, paint and ray-tracing products available are at only a fraction of the cost of competitors. The Amiga is a formidable machine to match.

Broadcast quality video output is possible with many of the various Genlocking devices available. A number of these support S-VHS.

A swag of title editing and special effects programs with in-built wipes and fades provide the low budget production house with affordable equipment that does not sacrifice overly much in the way of quality. Even the high-end Amiga machines with the fastest processors and a full compliment of memory are far less expensive than titling editors costing $20,000.

A top-end Amiga with software, genlock and mass storage would cost under $8000. Full overscan PAL images with titles ready to superimpose can be generated in minutes. Special effects and graphic manipulation products allow complex digital video effects to be generated as a background task, whilst simple titles, and transitional effects happen on the fly.

Amiga boasts a range of standard animation and graphics formats. Many programs are able to interchange designs, allowing the capabilities of each to contribute to the end result.

People use the Amiga

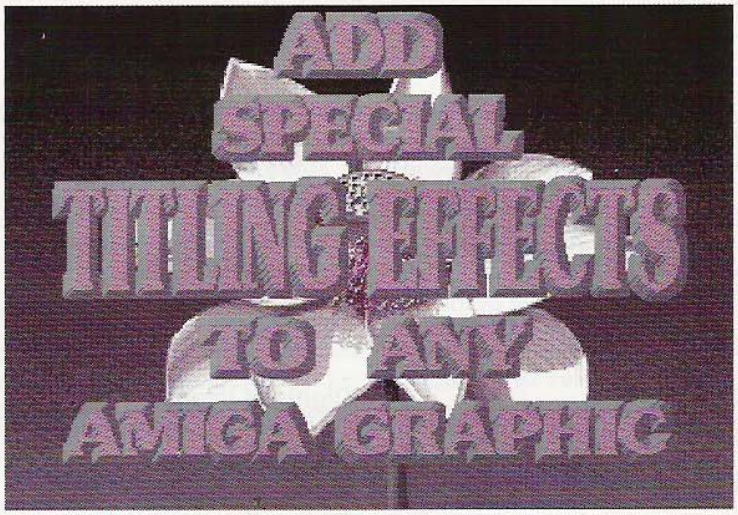
The life of any computer is in the software and the people which use it. The Amiga software range speaks for itself when it comes to possible variations on the basic theme of computing. Beyond the application to graphics, there are also many applications designed for other chores such as desktop publishing, presentations, midi-music sequencing and the basic tasks such as wordprocessing and accounting.

A huge line up of professional companies are using the Amiga already. From television stations to animation studios, production agencies and small businesses. People enjoy the flexability of handling several jobs at once. There is no need to wait for a time consuming operation to end before you can go onto other work. With the multitasking of Amiga, it's simply a case of running the other application you wish to use, and carrying on working. ❑

Desktop Video

By Peter Ward

If cost is important, there is simply no better personal computer on the market for video and graphics applications than the Amiga.



Further, even when cost is not considered, a souped up Amiga with four megabytes of 32 bit RAM, hard disk, 68030 processor, plus a graphics transputer rendering *Sculpt 4D* images in 16 million colours, is still up there with state of the art workstations costing four times as much.

Adding titles to edited video footage is an often need facility and one at which the Amiga excels. Using a Genlock in conjunction with the Amiga's colour zero function, you can perform Key edits from a title screen to background video (or the reverse). Various Digital Video Effects can be used to handle wipes and fades of these titles or animations.

Software Options

To create an animated title sequence for your video, use *Deluxe Paint III* or *Photon Paint* for starters. Both allow quick and easy title creation with animation.

More specialized title packages such as *Video Titler* and *Broadcast Titler* allow sophisticated text animations and wipes. *Photon Video* is an excellent package which allow the user to easily synchronize digitized sounds with traditional cell animations.

A more recent addition to the fray is showmaker. Animations, title and MIDI music or sounds can be synchronised and played back complete with DVE's, and special transitions

For ray-traced animations, Amiga owners should currently consider either *Sculpt 4D* or *Turbo Silver*. Both sell for between $500 and $700. Though moderately expensive, these packages can create animations rivaling those created by dedicated video-workstations. Anyone who has used either *Turbo Silver* or *Sculpt 4D* will appreciate the fact that ray-traced animated titles can take a long time render on a stock standard Amiga.

A single frame of an animation, can take six to eight hours to render. A five second animation requiring 125 frames will tie up your amiga for weeks! To speed up the process, use one of the various accelerator cards now entering the market.

Professional Users

If you watch channel nine for a short time, and you will no doubt see that all too familiar station promotion, soaring across Australia and ending with a glistening logo with the Sydney skyline seen in reflection. The creator of that marvellous sequence was Zap Productions. Apart from the major television networks, their work involves clients such as Duracell, Schweppes, The State Bank and Australia Post as well as corporate work and foreign customers.

Did they use an Amiga for any of their productions? My question was soon answered when I was introduced to Mr John Burge, a Senior Animator at Zap and shown a humble Amiga 500, with a Minimegs two megabyte expansion board plugged in its side, sitting in front of a Neriki Image Master genlock. The Amiga is used to create many of the graphics used at Zap productions by being part of an overall "video montage" process used to create the final product. What software did he use? The standards were *DPaint III* and *Sculpt 4D*, but just about every other graphics/video program for the Amiga was in their library should they be needed. The Amiga was extensively used in an advertisement done for the State Bank, where text was animated across the screen and eventually transformed into the outline of a motorcar.

Broadcast quality is achieved by using the RGB outputs from the Neriki, and recording in RGB using a Digital format VCR. More commonly an Amiga generated graphic is ported to either a Quantel Harry or Quantel Paintbox, where it is then overlaid into the final product.

Deluxe Paint

Powerful drawing tools, and image manipulation capabilities, along with support for full overscan video ready screens and colour text fonts make *Deluxe Paint* the envy of many other computer users. Although primarily a paint program, *Deluxe Paint III* also offers powerful animation facilities.

Simple animation can be achieved by painting each frame the old fashioned way, or by dragging a brush across a series frames. Using an animated brush, animations can be constructed in layers.

Using the MOVE menu, a brush can be rotated about and move along any of three axis. This enables objects to be translated closer or farther from the viewing point. Rotation of a title as it spins off into the distance can be achieved by entering only two numbers into a requestor box and waiting a minute whilst the animation generates.

Deluxe Paint III fully supports our PAL format televisions, and computers. For video work, overscan painting enables a maximum resolution of 704 x 680 picture elements. Additional colours are available using Extra Halfbrite. In this mode 32 additional colours only half as bright as the first 32 colours are available. This is ideal for shadow effects and shading three dimensional objects.

A whole variety of fills are available along with many different rendering modes - including smoothing, which can soften a rough image and blend colours together. Recommend retail price is $249.

Digitised Images

When it comes to the Amiga HAM mode, where all 4096 colours can be used at once, *Digipaint* and *Photon Paint* are close contendors. Both provide amazing abilities to edit digitised images, blending brushes into existing graphics, tinting, smoothing and colourising images as well as powerful ray-trace like effects. A brush may be mapped or wrapped onto a sphere, or any other polygon for that matter. Cuts from different digitised images can be combined and blended together. Powerful dithering techniques make producing quality graphics quickly a breeze. *Digipaint* works well with *Digiview GOLD*, a full-colour digitising package. Recommended retail is $119.

Image Processing

Image scaling, gamma correction, transfers between resolutions and colour formats as well as four-colour separations may all be performed in the *Art Department*. This tool is a must for graphics work. Images scanned using a Sharp colour scanner (JX-100, 300 or 450) can easily be modified and working Amiga screen resolution images produced, whilst full 24-Bit versions are maintained ready for later insertion into colour documents.

Professional TV-Text

High quality fonts, with a variety of rendered surface effects, extrudes, shadows, edges and outlines can be produced and positioned on screen. Using the built-in editor you can create your own text styles. Back-drops from paint programs can be imported or simple patterns, grids or shades generated as required in *Professional TV-Text*. Full overscan for video work is supported.

VideoTitler

Standard Amiga fonts, and special distortable Poly Fonts, can be used to create titles with over 20 special effects including embossing, balloon, outline, neon, colour graduation. Severe overscan, full support for IFF graphics and a powerful slide-show generator with various digital transitions make *VideoTitler* a must for all production studios.

Special Effects

Special effects, editing and processing of animations along with some astounding disolves and wipes can be acheived all within the bounds of *Amimagic*. Once again, the standard Amiga ANIM and IFF formats are supported. Digital Video Effects with wire-frame preview

3-D Solid Animation

Modelling and rendering complex three dimensional objects along with the ability to animate your designs, and view the result from a camera path defined using *ProMotion*. ❑

Rendering into the future

Amiga Animation software is set to explode in number by the end of this year. Here's an insight into what you can look forward to.

Byte by Byte have been dithering around the possibility of a better version of Sculpt-4D for way too long. Now, other developers have taken the rendering upon themselves and created the script for tomorrows animation scene. Tighter, faster, more intuitive products designed not for the 68040 processors of tomorrow, but for improvements using todays hardware. What's in store is enough to make you anti-alias any financial deficits and get on with purchasing one of these fabulous sounding creations the moment they materialise on the shelves of Australian retailers.

In no special order, following is an overview the promises, dreams and plans of the companies in question. Amiga is certainly poised to move onto greater Anims, incorporating features we thought only the big players with hefty machines boasting six digit price tags.

3D Professional Progressive Peripherals

With products such as IntroCAD and UltraCAD tucked away - both strong CAD applications, a move into the world of 3D animation would seem a natural progression. programs. 3D Professional is a new modelling and rendering package planned for release by Progressive early in the second half of this year. The US price will be around $499. As with most of these new entries, the feature list includes improved editing facilities which are easy to use.

Special object-creation tools, such as lathe, conic and extrusion editors will be included. Fractal mathematics will make objects such as landscapes, ground and trees far easier. Novelty item value in the tree editor rates highly - no more hours spent making leaves just he way you like. Now the entire process will be semi-automated with a variety of user-definable options which allow custom trees and bushes with detailed leaf formations to be modelled.

IFF Amiga brushes may be transformed into a 3D object. Existing objects in Sculpt-animate, Turbo Silver, VideoScape, Forms in Flight and 3Demon format may be imported. If you're brazen enough to own one, you can also grab objects from Atari's CAD 3D and IBM PC's AutoCAD.

Rendering options are definable for each object. Colour, textures and materials can be set. Phong Shading has been implemented in leu of a planned ray-tracing module down the track.

Low and high resolution modes, as well as HAM mode are supported. For serious work, desktop publishing, or to video via a frame-buffer, 24-bit colour-plane output is also possible. Other odd formats supported include X-Specs, RGB, and PostScript. Animation-generation features may be manually, key frame or scripts controlled. In the we've done it better department, Progressive are promising a two hour tutorial tape and three manuals of documentation. No doubt we will never see the tape in Australia!

As yet unannounced! Newtek/Allan Hastings

Into serious vapour mode, and of thing which are yet to be seen or talked about officially in any shape or form. Newtek and Allan Hastings, the originator of the legendary VideoScape animation package, is said be collaborating on a new sock removing package. According to some sources, like many of the new products about to appear, development has spanned some two years. The product is very elaborate - which would seem inevitable if anyone was to combine Newtek and Hastings software technology together.

Once again, ease of use is high on the list of supposed features, along with powerful features not currently available on a desktop computer. In the number crunching department you'll find hard-to-match features such as transparency; multiple colour light sources; hierarchical motion for objects, lights, and cameras, object monitoring; motion blur; and environment, texture, transparency, bump and surface mapping.

The Newtek input has made possible features designed to link in with their Video-Toaster (a PAL version of which is still months away). Images grabbed from wherever you fancy can be mapped onto any object - an amazingly powerful feature desperately required to produce real-world type animations rather than the surrealistic polished look of current work. An intuitive mouse-activated design system is promised, with real-time wire frame perspective editing. Three dimensional animations could be produced without reference to scripts or complex requesters. In fact, Newtek may have made mousing your way

into animation halls of fame a reality. No pricing has been announced as yet. The other thing missing is 24 Bit support - but we presume it may be included considering the current support in other Newtek products.

PageRender 3D
Mindware International

A significant upgrade of PageRender 3D is expected late this year. Version 2.0 will continue to expand on the strong base of script commands along with mathematical functions within these scripts, to generate 3D images. Mindware also plan to extend PageRender's ARexx capabilities - something which has made the product a leader in complex auto-rendering applications. No doubt this feature will help the product gain a stronger presence as the increased emphasis on multimedia, and therefore inter-application communication, grows.

Mindware will be releasing ready to use examples of such applications. The result will be an semi-automated products ideal for vertical market development. Other new features include additions to the 3D animated logos capabilities.

Imagine!
Impulse

The most talked about, most wanted product in the list so far is the amazing Imagine from Impulse. Thier existing product, Turbo Silver, will remain - Imagine is viewed as a logical extension. However, the specification make it sound like a whole new scenario.

Once again, two years in the making (did they start when rumors of the Hastings/Newtek venture circulated?), the product is said to be based largely upon the suggestions and criticisms of many a Silver user. You might see a copy in July for the Australian equivalent of $350 US (does that mean $700 AUS?) An upgrade path will be opened for about half that price.

New edit facilities and better than silver object rendering are promised. It's not just a hyped up Silver - this is a whole new product, with all the usual lost time working out the changes attached to that.

Two object editors make it all happen. Forms, allows you to create a 3D object from a 2D perspective. Using point movement in three distinct windows to create a form or mold of the object, you begin with a rough, "first-cut" view of the object. This allows your creative talents to burn without worrying about the accuracy too much.

Detail, the second editor, uses Boolean math to perform a variety of unique functions. These include some bizzare sounding functions such as the ability to carve out areas of points, drill objects through other objects, or mold objects around other objects.

Colours, refraction, reflection, specularity, smoothness, textures, shading, size, and other attributes can be manipulated and the whole show animated. It need not be straight line paths or clock-like motion. Imagine contains the ability to produce lifelike animation paths and motions. Using the Stick Figure feature, you can create complex objects composed of detailed separate segments, connected at the natural joints. These figures can be animated, using object cycling - for example walking, jumping, sitting down, throwing a ball are all possible motions for a human figure

Once the Form has been created, given Detail, and linked to the movements of the Stick Figure, you can then determine how separate animated objects will interact. You can place props, determine the speed of motion and plot the direction of movement of objects.

With the added power of Genlock interfacing capabilities, rotoscoped movements of a stick figurine allow control over all aspects of character movement."

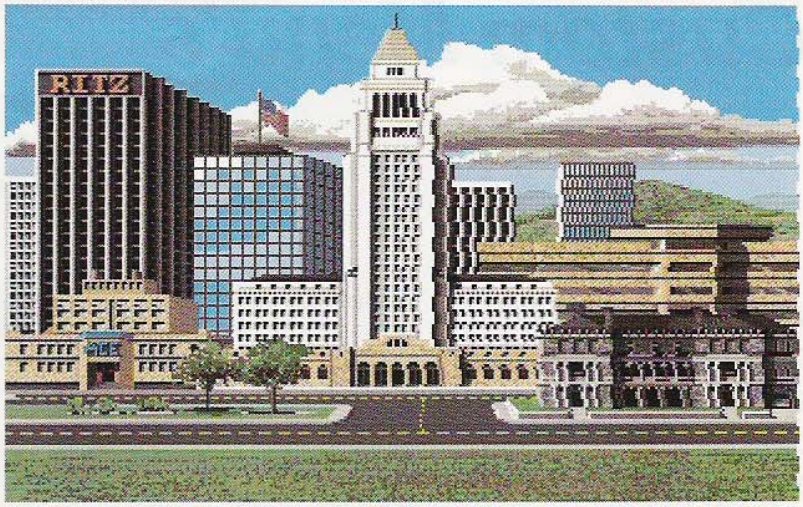
Morphic changes, several new or improved rendering modes, full trace, solid model, primitive model, and wire frame are all new additions. Two rendering modes speed development time. One ignores hidden lines, rendering them as defined, whereas the slower mode does full line removal.

The Journeyman
Hash Enterprises

The latest addition to the Hash animation series is Animation:Journeyman. The package is a 3D animation product.which features include a 3D cubic patch modeler, a character designer, a motion creator, a bird's-eye-view choreographer, and a 24-bit colour plane resolution renderer.

Hash call their cubic path mode a highly interactive technique. They place emphasis on organic animation, creating character and movement more natural and lifelike. No doubt this approach may for some applications surpass the polygonal editing approach employed by many other animation packages.

Other facilities to be included according to Hash are surface decaling,



multiple coloured light sources, spline paths, wire frame rehearsals, and ANIM-format compatibility.

NTSC and PAL video are supported, however the PAL price will be high with a US cost of around $500. Hash recommends an A2500 or equivalent.

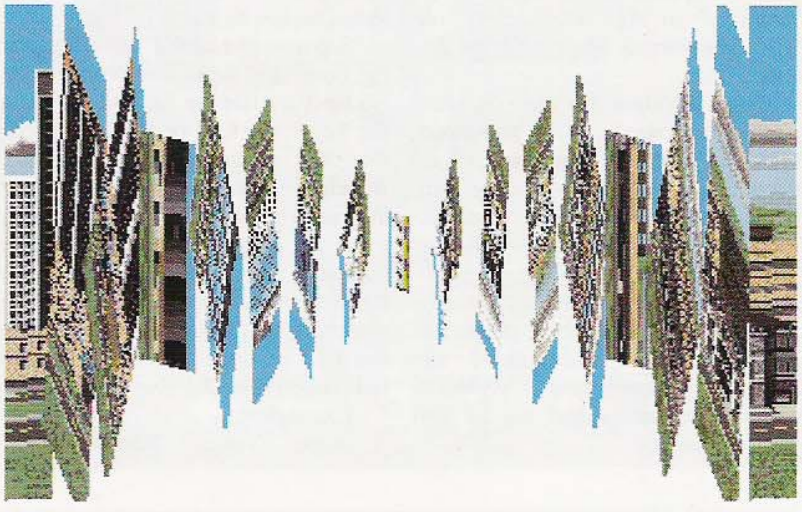
Fence Sitter

Despite the acceptance of Sculpt-4D as the current preferred ray-tracing animation package, Byte by Byte is spending more time developing Macintosh version which have features missing on the Amiga release. However, they have promised to transport the improvements to the Mac version to the Amiga early next year. By then they may have waited too long.

InnoVision Technology will be upgrading Video Effects 3D; Micro Magic will not be improving Forms in Flight II, but the price should drop. Design 3D from Gold Disk has also reached solid ground, with no immediate upgrade plans. Of course, between Professional Page 2.0 and Showmaker, Gold Disk probably have plenty to worry about already.

❑





Custom Menu's

By Iva Bargayn

Every so often a public domain program comes along which is so useful you install it on every Workbench disk in your collection, and tell all your friends.

MyMenu is one such utility. It saves mousing around for applications, as well as adding CLI power to the Workbench.

In essence, *MyMenu* enables you to create your own menus in the WorkBench to run your own commands. This can save the hassle of opening up lots of drawers to get to the command you want. MyMenu will allow you to execute both CLI and WorkBench programs, and is configured with a normal text file.

Using *Diskmaster, SID* or the CLI, Copy MyMenu-Handler to the L: directory. *MyMenu* will also look for this file in the current directory if it does not exist in the L: directory. Using your favourite text editor, Ed or a wordprocessor with a SAVE AS text or ASCII option, create the file MyMenu.conf in the S directory on SYS:. The format of this file is described later.

To get *MyMenu* operational, start up the Workbench. The command "MyMenu" entered from the CLI or added to your startup-sequence will load and start up the handler process. Menus should now appear in the WorkBench menu strip. Running *MyMenu* while the handler is already loaded will cause it to re-parse the configuration file and rebuild the menus. The command "MyMenu quit" will terminate and unload the handler process.

The configuration file is read in when you run *MyMenu*. It is looked for in the S: directory, and in the current directory in that order. This configuration file defines the menus you want, and what commands they will run. You may put carriage returns between keywords, but you cannot put a carriage return in the middle of a command. Comments begin with a #, and continue until the end of the line. Upper and lowercase does not make a difference.

COLOR n

This will set the foreground pen color for new menus. You can change this as often as you want. The arguments is number that is the pen number to use. The default is 2 (black).

MENU [<command-char>] menu-name item-name [sub-item-name] | command-def

Defines a new menu. Each menu definition must have a menu-name and an item-name. A sub-item-name is optional. If any of these names contain whitespace, enclose the name in double quotes, or precede the whitespace character with a backslash (). A command character may be defined for the menu item by putting the character after the MENU keyword and surround it with <>'s.

Separate the menu definition and the command definition with a vertical bar (|). After the bar, you can have the keywords CLI or WB, to specify that the command is a CLI or WorkBench command. Everything after WB until the end of the line is taken to be the command. Everything after CLI until a space or end of the line is taken to be the command. Everything else will be passed as arguments to the CLI command. Do not include redirection in a CLI command.

Examples:

menu Games Tetrix | WB dh0:games/tetrix

This will define a menu "Games", with a menu item "Tetrix". If this is selected, the command "dh0:games/tetrix" will be run as a WorkBench program.

menu Games "Black Box" | WB df0:Black Box

This will define a menu item "Black Box" under the menu "Games". The menu Games will already exist from the previous example, and will now contain "Tetrix" and "Black Box" as items. The command to be run is "df0:Black Box" (Box is not an argument).

color 3 menu Utilities DMouse "Start DMouse" | c:DMouse menu Utilities DMouse "Quit DMouse" | c:DMouse quit

This will define two sub menu items (drawn in yellow). The second command has an argument.

Future plans and hopeless dreams: AREXX support. Fix up path searching. A better parser. Support for graphical menu items.

Limitations, bugs, and other wierd things: Path searching does not work. Do not compile this in. I would appreciate it if someone can find the problem, since I am stuck. Details are in DoRun.c. New preferences causes menus to disappear (but handler is not unloaded). The menus can be rebuilt by running MyMenu again. Redirection can not be done for CLI programs, since the code already does redirection to and from NIL:. There is a line limit of 256 characters in configuration file.

MyMenu was written by Darin Johnson. You can obtain a copy from your favourite Bulletin Board, supplier of public domain software or as part of our Super Workbench which includes numerous other useful utilites.

NERIKI GENLOCK

It works with the Amiga - not in it!

That has a lot of advantages, no expansion slots are wasted, no added load on the power supply and none of the keyboard commands that have to be used with internal genlocks.

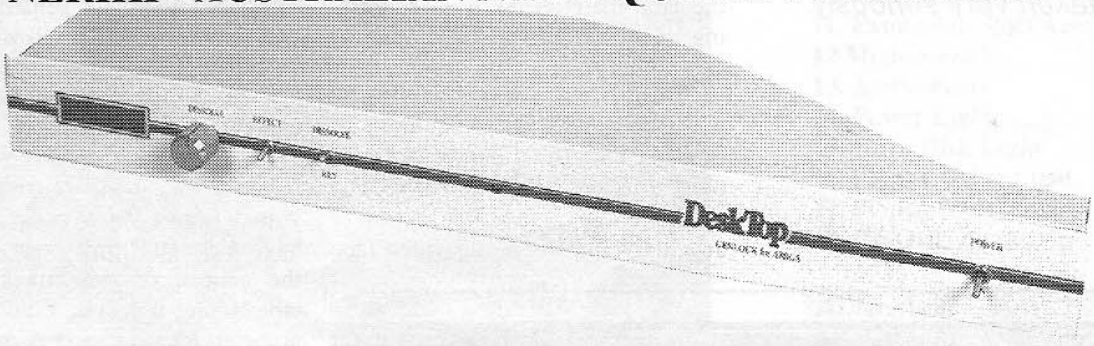
But the real advantages are in performance. The Neriki genlock meets broadcast standards. It encodes at 5.5mHz and delivers full 625 line resolution. Even third generation tapes are broadcast quality. It works with any Amiga computer and all Amiga text, graphics, paint and animation software. It genlocks to any video source - studio reference, black burst, camera, TBC and suitable video tape source in any format, including SHVS - and puts out high quality composite or RGB video for quality, flawless productions.

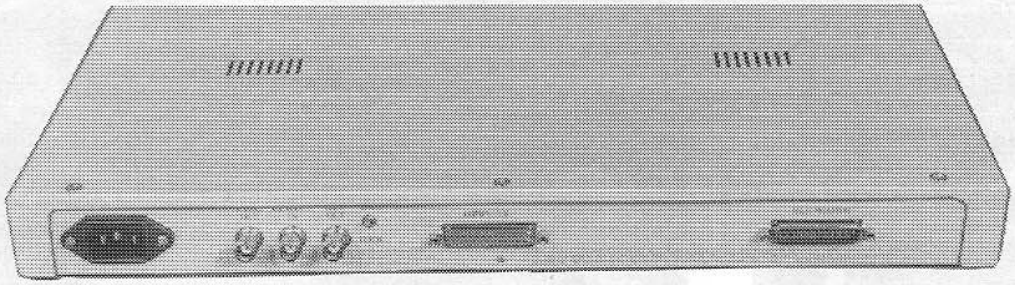
Simple and instant front panel controls with effect key, key invert, and dissolve.

More information is yours for the asking, just phone or write.

Supplied with a full one year warranty.

NERIKI - AUSTRALIAN MADE QUALITY PRODUCTS





6 Hawthorne Place, Orange NSW
Telephone (063) 62 9901 Fax (063) 62 8675

Designed and Manufactured by Fordray Manufacturing

MicroIllusions EDLP

By Peter Ward

Since its introduction the Amiga has often been regarded by the PC establishment as a slick games machine, not to be taken too seriously.

With the advent of multimedia and DeskTop video applications, the Amiga is now a heavyweight contender against both the IBM-PC and Macintosh. "Only Amiga makes it Possible" is a slogan now being taken very seriously.

MicroIllusions have been quick to recognize video applications on the Amiga, having previously introduced Photon Paint, Photon Cell Animator and Transport Controller. They have done it yet again with a software application package aimed directly at the professional market, with their Edit Decision List Processor (EDLP).

When editing video tape various problems can be encountered. Conventional tape counters tend to slip and not allow precise access to a particular location on the tape. Synchronizing video to audio tape also requires very precise labelling of the tape material, as does addressing a particular scene transition or edit on the tape.

To alleviate these and other problems the Society of Motion Picture and Television Engineers developed a code called: SMPTE. The code allows a precise description of any individual frame on video tape or film.

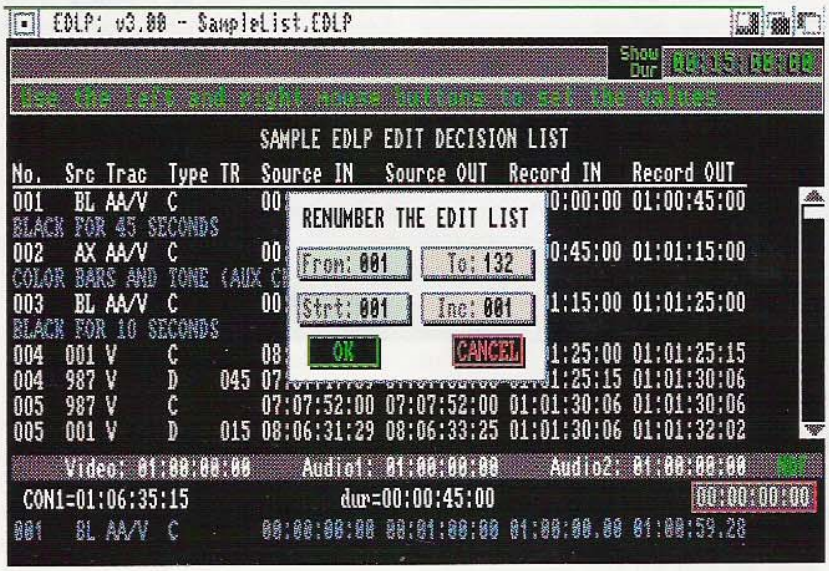
It consists of an eight digit sequence HH:MM:SS:FF, where HH is hours, MM minutes, SS seconds and FF frame number. Thus, 01:25:12:09 would be at the 1 hour, 25 minute, 12 second mark and frame number 9 on the tape.

Motion picture film and video tape run at differing frame rates, with film at 24 frames per second, PAL system video at 25, sometimes called EBU (European Broadcast Union) code, and the American NTSC system being slightly more complex at 30 frames for black and white video and 29.97 for colour. The last rate is not actually 29.97, and is achieved through playing at 30 frames per second, dropping every 108th frame, thus often being called Drop frame code.

By using a hardware device called a time code generator, individual frames on a video tape can have a SMPTE time code added to the control or sync track on the tape. Using this system allows very accurate identification of any location on the tape, where an edit can be performed, scene transition effected or sound effect added etc.

Also by using this system the video tape now has an address system which can be accessed by a computer. By using appropriate hardware the computer can then be used to control the VCR allowing automatic editing of the tape.

There are various methods of editing a video tape. The simple edit cut being an instantaneous cut from one scene to the next. Split edit is where the point at which recording is commenced, from two different source tracks, is not the same.



The dissolve edit requires three Video recorders, where "A" and "B" tapes are gradually mixed from one to the other, and placed on to tape "C". Dissolve edit requires a studio mixer/switcher to synchronize the "A" and "B" tapes before this type of edit can be accomplished.

The Wipe edit works much in the same manner as the dissolve edit. Here the "A" source moves gradually over the "B" source using any of a variety of patterns for the actual wipe.

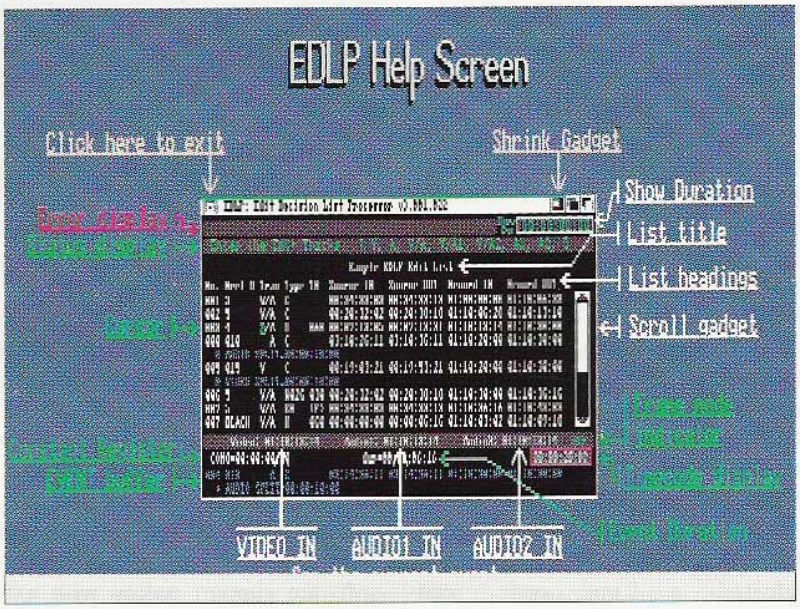
Lastly the Key edit involves superimposing part of one video source over another which forms the background. Titles on top of a video being the best example of this. Key edits can also have variations where the overlay is gradually faded in or out, wiped or cut along with a host of animated effects.

So what has all of the above got to do with MicroIllusions EDLP? Take the following example.

Say you want to make up a list of SMPTE codes and their respective tape sources, and apply various edits at each event address. To translate that into plain English - you have various scenes on separate video tapes, and at specific points you want to cut, wipe, dissolve etc from one tape to another, to build your final production. Thus by using the EDLP a single sample event would written as:

001 043 V/A C 00:40:00:00, 00:40:12:00, 01:00:00:00, 01:00:12:00

This de-codes to: event number one on reel 43, (which is) video, using audio track 1 and audio track 2 from 40 minutes even to 40 minutes and 12 seconds even.



It does not take too much thought to realize that if you had assembled a list of say 100 edits, with each edit being time dependent on one another, a change in the duration or type of edit at event number one would require one heck of a lot of time with a pocket calculator and note pad to work out the timing changes on the other 99 events!

Using MicroIllusions EDLP solves and simplifies all of the above problems. You can literally rework your edit decision list by using word-processor like cut and paste commands with all of the subsequent timing/SMPTE calculations being taken care of by the program.

NTSC, Drop Frame, EBU and Film codes are supported. Free text can be added to the list which keeps track of event numbers, source tape, track numbers type of edit, SMPTE source in and out times and SMPTE record in and out times. Timing of events is checked automatically for validity, for example it would not allow frame number 26 on a film clip.

There are numerous menu commands which have keyboard equivalents, however the Amiga mouse/menu interface is good and allows easy use of the program for first time users. Just short of one thousand events can be listed on three different tracks, with the list instantly re-calculated every time a change is made. By selecting "Help" mode a short description of menu items and gadgets is displayed.

The manual is slick and comprehensive. I particularly liked the glossary which reads like "everything you wanted to know about video but were afraid to ask". It's great.

Various utility programs are supplied with the EDLP, not the least of which is a transfer program which allows completed lists to be ported

to MS-DOS compatible floppies. There are numerous industry standard formats used to create an edit decision list.

This communications problem has been addressed via the serial port on the Amiga and edit decision lists can be complied on CMX 216, 3400 and 3600, Grass Valley Group, United Media, Convergence, EMME, and Sony BVE900 formats.

A decision list can also be ported to a printer as a hardcopy. There is also a handy time code converter utility, which allows easy conversion of Film, EBU, Drop frame and NTSC codes.

To further support the program, MicroIllusions have concurrently released a Time code reader/generator hardware option, the TCRG-102. By using this device automatic editing of video tapes can be accomplished through the Amiga serial port. However other time code readers such as the Cipher Digital 735V-232 and ESE 453-232 are supported. Where the program transforms into a tour de force of editing is through its Automatic Edit List Generation (AELG) feature.

By using a time code reader the program can literally "read" a cuts only video tape and produce accurate list of "IN" and "OUT" SMPTE times on an edited video tape. The program is not copy protected and it can be installed on a hard disk.

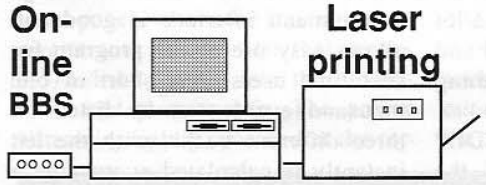
For an extra $US100 per year MicroIllusions provide an extended software support policy with extra support, manual and software upgrades being sent automatically to registered users. Pricing the package at $US499.95 (and the TCRG-102 hardware option at $US799.95) makes it extremely affordable for professional users.

MicroIllusions EDLP is not for amateurs. They have clearly selected a specialized niche in the video market, aiming the product squarely at professional editing equipment operators. I am happy to say however, that their EDLP can only further enhance the presence of the Amiga in professional video applications.

Thanks to David Boyles at MicroIllusions for the review copy. ❑

AMIGA BUREAU

On-line BBS



Laser printing

Desktop Utilities

- 300dpi postscript laser & colour separations
- Amiga software distribution & support
- File conversions Amiga/IBM/Mac/Atari/C64
- BBS for prices, news, files; set dial 60 secs
- DTP, graphic art & scanning services
- Major Amiga packages supported

Desktop Publishing - File Transfers - Software

Australian distributors - RRP prices inc. tax - ask your dealer or call us

Consultron

CrossDOS $50

The MS-DOS and Atari ST file system for the Amiga; access from standard Amiga applications

CMF Software

Contact $60

Memory-resident phone dialling & address label printing utility with A-Rexx port

CalcKey $30

Memory-resident calculator; 'type' facility to send results directly to your application

ASDG

Professional Scanlab $1400

interface card, cable & software for Sharp high resolution colour scanner

Dual Serial Board $355

connect & use 2 serial devices at once

RESEP *24-bit colour for PPage* **$80**

Facc II *disk accelerator* **$45**

Cygnus Ed *fast text editor* **$135**

The Art Department $120

24-bit image processing software

PO Box 3053 Manuka ACT 2603

Message Line: 06 - 239 6658

Bulletin Board: 06 - 239 6659

For details and prices call our BBS or ask for our leaflet. We are on line most hours / 7 days. Dealer enquiries welcome.

Front Projection

By Dennis W. Nicholson

Welcome! Through this column I hope to introduce you to some unique graphics, desk-top video and multi-media techniques that will have both you, and your computer, going where "No man, woman and Amiga has gone before". If you wish to take part in the journey read on...

The Camera Never Lies... But Computers Do! As far back as 1897 people were using special visual effects in films to trick the viewing public into believing the unbelievable. One such person was famed French illusionist Georges Melies. His camera trickery involved the use of a wide variety of techniques, many of which are still in use today. Such effects as freeze frames, fades and double-exposures, to name but a few, are to be found in numerous Melies films.

Although primitive by today's standards, his clever visuals astonished the public of the time, and inspired many people to follow his lead. "What does Melies work have to do with my Amiga?" I hear you ask. If you use your machine for graphics and/or desktop video work then you should take heed of what Melies once said about himself, "I work with my brains and hands."

It's a fact that computer graphics have taken most of the pain out of physical graphics design, the "hand" work so to speak. You no longer have to begin with a blank piece of paper if a mistake is made, or if colours have to be altered, you simply re-load the original image and alter it accordingly.

But with all the advances in computer graphics over the years I still tend to see people only using what the software and hardware manufacturers give them. Don't get me wrong, there are certainly many fine graphic designers who are a real whizz when it comes to drawing and layout, but the majority seem to be satisfied with the standard Amiga software, such as *Deluxe Paint III, Dig-Paint, Sculpt-4D* and the like.

Using these software packages in conjunction with genlocks and frame grabbers can, and does, give rise to many outstanding visuals. But why not go one step further and create eye-popping displays! That's what graphic design is all about, grabbing the attention of the viewer.

Melies used his brain to invent new ways of displaying visual information for entertainment purposes, and computer graphic creation should be thought of in the same light. If a client approaches you to create a graphic it is then up to you to conceive that idea and push it to its visual limits, and that requires brain power. The more techniques you have up your sleeve to pursue that idea, the better the chances of it being a success in the market place.

The Amiga with its associated software and hardware should only be considered a small part of the tools that are available to complement your brain power. Don't be afraid to mix older technologies with the new to obtain unique results. There are many areas within the film and television spectrum that can be married quite successfully with computer graphics and animation.

The most well known is cartoon animation. Once it was a matter of drawing each individual image onto paper, or transparent cellulose acetate (cels), then transferring each image to film by photographing each cel to obtain the final impression of fluid movement. This technique, although time-consuming, has been the proven method for many years. Now computers are helping to do the job in a much shorter time span. (Note the release of Disney Software's *The Animation Studio* for the Amiga, to be reviewed in an upcoming issue).

One particular area of film special effects that can be a valuable asset to computer desktop video is one that has been virtually overlooked in today's high-tech world, and that is Front Projection. But before I elaborate on its use with the Amiga I should explain its origins in the world of feature film production.

There are three main types of process projection used in feature films (two of which can be utilized with *Digi-View*). Of the three the most commonly used, especially during the 1930's to the 1970's, is Rear Projection.

I'm sure you are all familiar with this process, the car interior with the rear street scene shown through the back window, the lead actor hanging off a dangerous cliff,

and the outside world seen from the interior of a train carriage etc. The rear projection process involves projecting a moving, or still, image onto the back of a translucent screen while the actors are positioned on the opposite side of the screen facing the camera.

The second, and more recent technique, is Blue Screen. This is the motion picture equivalent of genlocking, but is a much more complicated procedure and it currently has no place in this article.

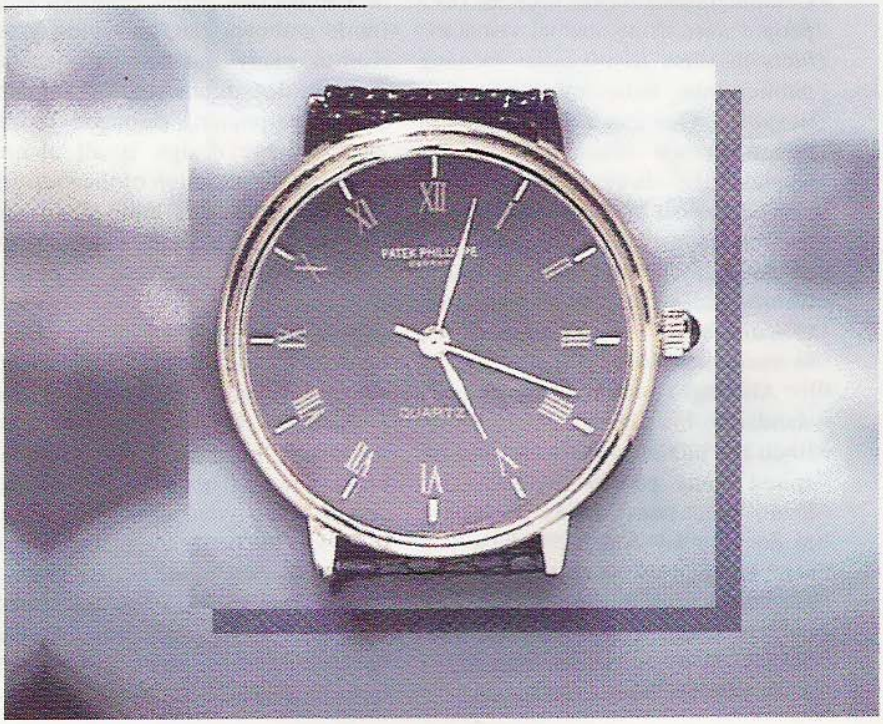
We now come to Front Projection, a process that was first patented for motion picture use in America (Hollywood, where else) in 1952. The system uses a reflecting, rather than a translucent, screen behind an actor. The background image being projected from in front of the screen, instead of from the rear, hence the name FRONT projection.

The projector is positioned at one side of the camera, with its optical axis at ninety degrees to that of the camera. The projected image is reflected on to the screen by a two-way mirror placed in front of the camera at a forty-five degree angle to both the camera's and projector's optical axes. The camera photographs both the image on the screen and the actor(s) standing in front of it by shooting through the mirror.

The process operates on the principle that if the reflected background image is projected directly along the optical axis of the camera lens, then the shadow of the actor(s) which is cast on the screen will be masked EXACTLY by the body of the actor(s), and will therefore, not be visible.



Above: Nikon camera created with front projection digitising.
Below: Watch Digitisation in only 16 colours.



The key to such a motion picture based system lies in the nature of the reflecting screen used. Conventional screens, like you may use to project slides onto, are designed to provide considerable diffusion of the projected image, so that a uniformly brilliant image will be seen by the entire audience. In order for the front projection system to be feasible an entirely different kind of screen has to be used.

A Beaded Reflex screen is utilized, this has the effect of returning virtually all of the light from the projector DIRECTLY back towards the source of illumination. Without such a high reflectance the brilliance of the projected image will not be sufficiently bright for filming. It is also important to note that unless the difference between the amount of light reflected from the screen and that reflected from the actor(s) face and costume are considerable, the projected image will be seen on the actor's body.

A colourless adhesive into the surface of which are embedded literally hundreds of thousands of very small spherical beads of glass (lenses) is applied to the beaded reflex screen. Each tiny bead is an optically perfect reflex reflector which reflects incoming light straight back to its source. You will know exactly what I am talking about if I say this type of material has been in use for years all over the world on reflecting road signs and road markers (cats eyes).

The material used for signs is a cheaper version of the motion picture material (more commonly called "Scotchlite") and its working principle is identical to front projection screens. When a car's headlights hit a sign it reflects a large amount of the light back towards the source of the light. Get the beam...er, picture?

The Scotchlite material is estimated by its manufacturer, 3M Products, to be sixteen hundred times brighter than a perfect white surface. (3M product number - Scotchlite 7610 and 7615).

An excellent example of front projection work can be seen in the first twenty minutes of Stanley Kubrick's 1968 masterpiece *2001: A Space Odyssey*. The screen employed on the "Dawn Of Man" sequence was over 27 metres (90 feet) in length. To overcome the join problems when butting the material edge-to-edge, the entire screen was covered in a patch-work of Scotchlite made by cutting it up into odd-sized shapes. Thus making the detection of joins almost impossible.

Scotchlite is very difficult to lay, and also quite expensive. It can cost up to $17.00 for a section measuring 30cm x 30cm. The "road-sign" grade of material is quite a deal cheaper, though it is not as optically perfect. The material is supplied in various lengths, but only widths of 61 centimetres are available.

There is a definite art in the laying of a large front projection screen. Once the sheet is removed from its adhesive back it is almost as thin as tissue paper, and when it comes in contact with a surface there is NO chance of getting it back off if a wrinkle begins to form. The front surface of the material is also very delicate, all handling should be done while wearing soft cotton gloves to avoid unwanted finger markings.

For small screens, say up to one metre by one metre, an ideal backing can be masonite board, as this has a very smooth surface on one side. Other good backing mediums are glass, perspex and laminex.

Essential to front projection is the two-way mirror. Actually a piece of high grade glass with a partial mirror silvering on one side, thus allowing light to pass through (transmit) and bounce off (reflect) the glass. The REFLECTING surface faces the projector and the TRANSMITTING side faces the camera. It is possible to use a piece of standard glass, as it will be much cheaper than purchasing a two-way mirror, but there are disadvantages.

Reflecting an image off standard glass will give you a double image on the screen, one being reflected from the front of the glass, and the other being reflected from the "inside back" portion of the glass. So if you can only afford standard glass then make sure it is thin, as this reduces the "doppelganger" (double-ghosting) effect.

Alignment of the camera, projector and mirror/glass is critical. A misalignment is immediately apparent as a distinct shadow will surround your foreground subject when looking through the camera, or in our case, viewing the setup on your monitor. Unlike rear projection, once the projector, camera and glass have been correctly set none of the components can be moved or altered during a shot (except for the subject matter of course), as the shadow problem will occur.

The Scotchlite material has a very narrow angle of reflection, less



than ten degrees off centre. If you look through the camera you will see at least 99% of the projected image's brightness being reflected back to you, but if you take your eye away from the camera and look towards the screen the image you see may be 90% more dull. Because of the material's high reflectance abilities there are very few problems when it comes to lighting your subject matter in front of a screen. Considerable spill light may strike the screen from any side without washing out the projected image.

Even foreground lights placed within 25 to 30 degrees off the camera's optical axis will not affect the screen image. (Lighting three-dimensional objects is an art within itself, and a future article will cover this area).

The image with this article, titled *Nikon* was created by digitizing the 35mm camera as it was positioned 70 centimetres above a sheet of front projection material. A 35mm slide projector was then used to project the background image onto the FP material.

The lighting was provided by a quartz iodine 800watt light which was placed to one side of the subject matter, while supplementary lighting, in the form of bounce light, was produced with white polystyrene foam. Due to the intense reflective capabilities of the FP material the video (digitizing) camera lens was set at f/16, thus allowing for great depth of field (focus) on the subject camera. (*Nikon* is a Dynamic High Resolution 640 x 512 image).

The *Watch* picture was created the same way, but only uses the standard 16 colour High Resolution mode in overscan. *Coin* is an overscan 16-colour High Resolution picture.

If you want to try your hand at this technique and wish to purchase some front projection material, one company I know that supplies the material is Pacific Outdoor Advertising, 45 Orchard Road, Brookvale NSW 2100, Phone: (02) 938 3388. You should ask for 3M front projection material type 7610 or 7615. The cost is $14.80 per square foot (plus 20% sales tax).

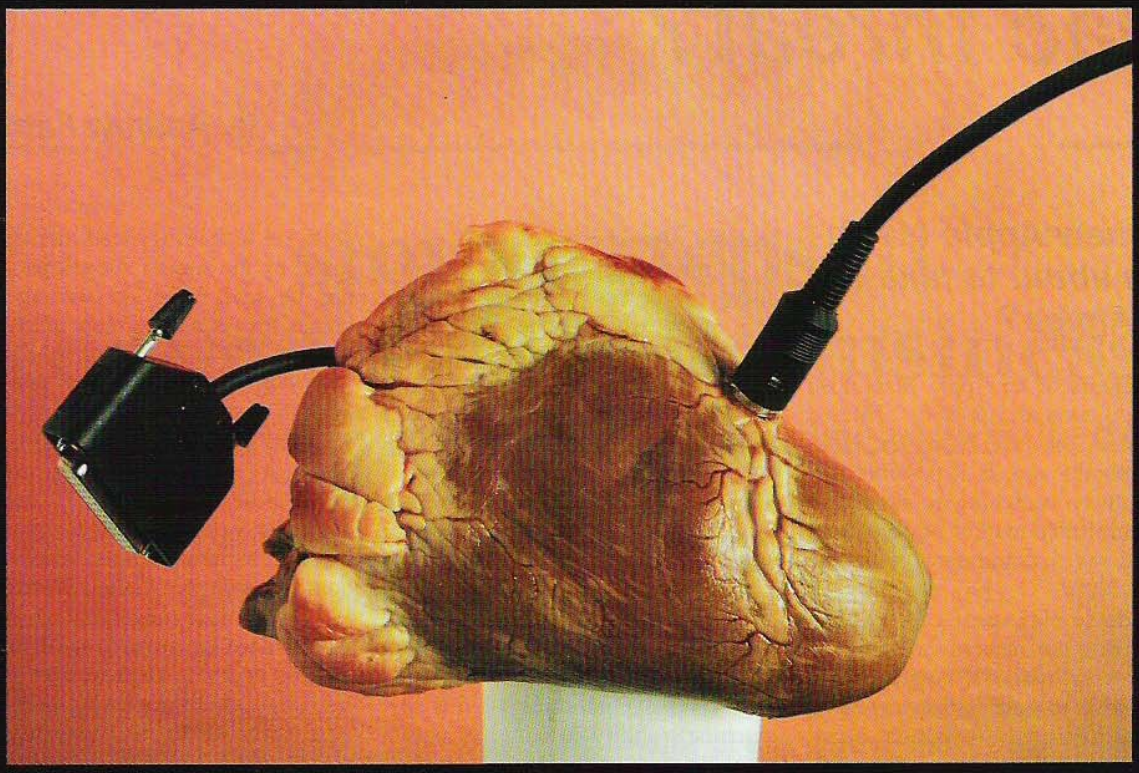
This price is for the purchase of ONE to TEN square feet, the price drops to $12.90 sq.ft (plus 20%) for orders over ten square feet. The material comes in two foot roll widths, so you will have to purchase a minimum of two sq.ft. Remember, Front Projection material IS EXPENSIVE and it IS VERY FRAGILE!!!

So with the use of your hands, brain and Amiga, you will be on the way to creating new and unique visuals. Just think, we may have another Georges Melies waiting out there to astound the public of our time!

Dennis Nicholson is the Editor of Graphics-Palete, the graphics/DTV disk-zine for the Amiga.

❑

The heart of Midi is INTERFACING



Its lifeblood is COMMUNICATIONS

● ● O ●
A L A RM
COMMUNICATIONS

COMPUTER/MIDI INTERFACES

Ring Free 008 337 311 Austwide (ex Melb.)

Melb. 534 4444

PO Box 86 St. Kilda 3182 Aust.

Mac threat?

By Andrew Farrell

Is a new Apple Macintosh about to take on the Amiga?

Rumours of an Apple Macintosh costing around $1800 filtered through to the reptiles of the press some months ago. Is it possible Apple might be launching an assault on the comfortable market position now enjoyed by Commodore with the Amiga 2000?

To do so may seem a likely plan, considering the success the Amiga is enjoying in markets Apple would dearly love to have a greater chunk of. However, could they build a machine more powerful than the combined custom chip power of Agnus, Denise and Gary?

Apple certainly have the expertise and the money to devote to research and development. Custom chips to handle graphics and sound have already been developed for the Apple IIgs. One could safely presume such technology has the potential to go much farther.

Colour would be an essential feature - and lots of it, more than the IIgs has. A variety of display modes ready for video is important. Multitasking would also be high on the list of must haves, not to mention stereo sound and a good range of software to support all these fandangled new features. A tall order to be sure.

The most difficult problem for Apple would be launching a machine that has features their existing high end models in the Macintosh range are either lacking, or which can only be added at great expense. Colour and true multi-tasking, two primary Amiga features, are missing from the basic Apple Macintosh. These two features would be critical.

Multi-tasking is heavily supported by the power of proprietory silicon chips which cope with huge amounts of video processing, and memory management.

If this power were granted to a $1800 Apple Macintosh, along with colour and the usual credible array of Macintosh features, where would this place other more expensive Macintosh models?

Would not Apple need to place a cap on the capabilities of such a new machine in order for it not to affect existing equipment's position? If so, would that cap not diminish this new machine's ability to compete with a machine such as the Amiga which is as expandable as current technology allows?

Indeed, it would appear the market Apple are most likely to capture with such a design is one which the Amiga has made small but significant inroads into. Apple Macintosh users by day are often Amiga users at night, because they cannot afford the price of the machine they might rather own. Apple may feel that such people will switch to a cheap Mac when it arrives, and that more office Mac users will be able to afford a Mac for home too.

Of course, this denys the fact that most home computer owners base their initial purchase primarily on the large array of games which are available, and which impressed them immensely at the time of purchase.

So, Apple would need to develop an instant collection of crash hot entertainment titles ready to blast the socks off possible consumers - with a bigger bang than games currently impressing Amiga buyers.

I doubt this is possible, given the software technology lead already enjoyed by the Amiga. Developers will not be mad keen on writing new games for yet another new machine.

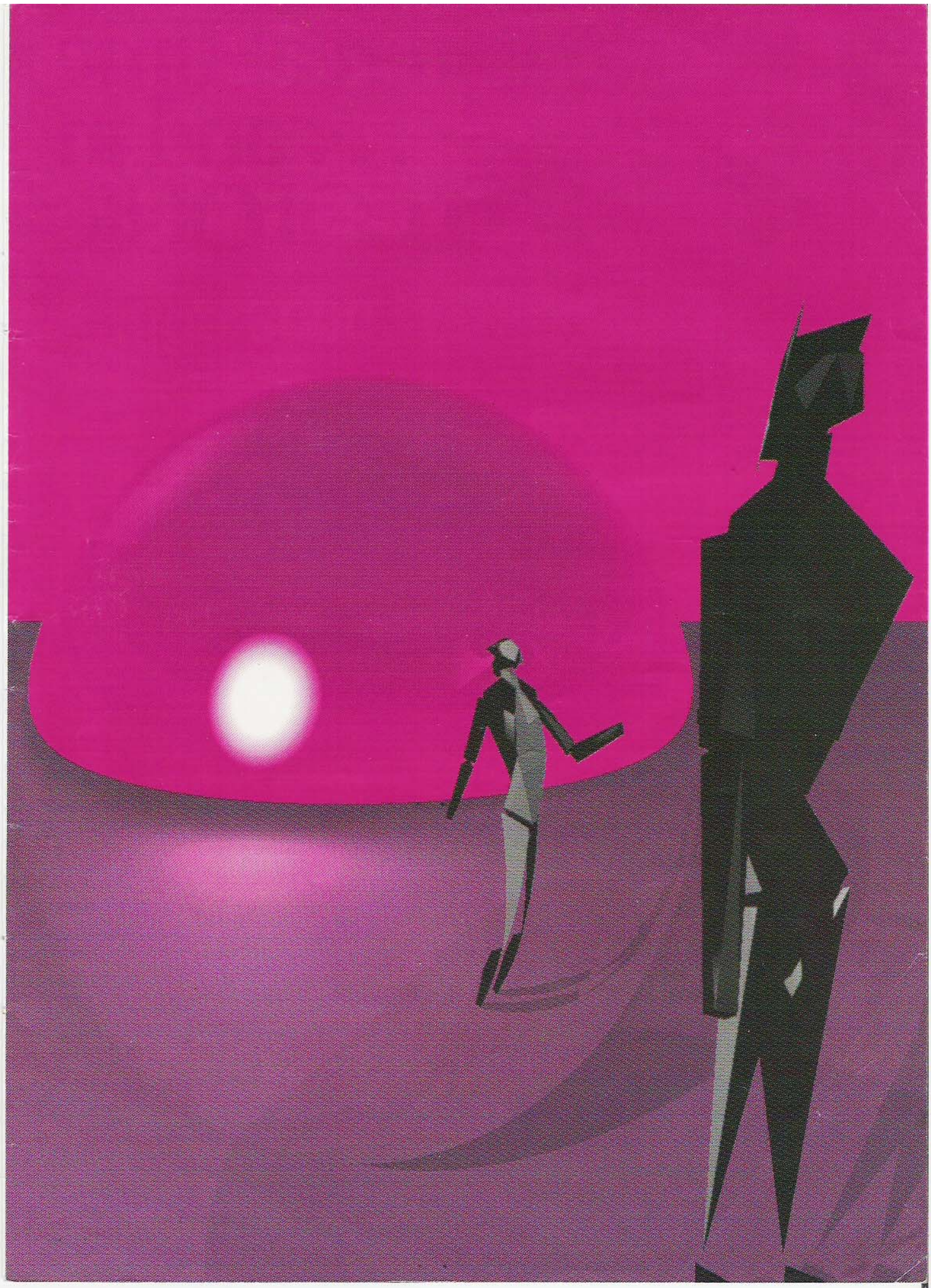
In Apple's favour is the large array of off-the-shelf serious products available which would be a great attraction for the small business and hobbyist type person. Of course, very little of what is already available would be able to take advantage of new features required to compete with the Amiga. So the next lot of software development Apple would need to embark upon would include updating all their best graphics, paint, wordprocessing and business software to run smoothly and reliably on this new fandangled model.

So, if Apple are to take Amiga on head to head, they face a lot of hard work. Inevitably, most of this will happen after the launch of the machine. By this time, Amiga will have sailed even further away from the Mac stable, with new features and new software Apple never dreamed of. Such is happening even as we speak - new Commodore and third party products which we are starting to get wind of now represent giant steps for Amigand computer technology.

Hardware development, custom chip technology, problems with existing models, software development and improvements to the operating system would certainly all take a long time to carry out. How far have Apple already gone?

We shall have to wait and see. But, it would appear so far that a head to head battle for supremacy is very unlikely.

❑



We do it in real-time . . . and in COLOUR.



All our video digitisers are real-time colour and capture a picture as fast as a TV camera can provide it, PLUS – All include a live framestore output for connecting to a second picture monitor or even a TV set to simplify focusing and setup. (Your computer monitor may have a switched CVBS input so you may not need a separate framestore display.) PLUS – All have monochrome facilities with comprehensive software tools.

SuperPic Amiga – Real-time digitising with genlock. Software to take advantage of the Amiga's colourful 4096 colour HAM display; including overscan and interlace as well as 32 colour mode. Writes IFF compatible and custom format picture files. Works with A2000, A500 (A1000 with adaptor).
Recommended retail price **$1699 inc. tax.**

SuperPic PC – Includes IBM interface card and UHF TV framestore output. The framestore system means that even non-VGA PC users can save and recall colour images. Software to produce 256 colour VGA images from a palette of 256,000 and write GIF, PCX and custom format files.
Recommended retail price **$1699 inc. tax.**

ColourPic Amiga – Similar specification to SuperPic Amiga, without genlock but includes UHF TV output.
Recommended retail price **$1499 inc. tax.**

SuperPic, SuperPic PC and **ColourPic** can be obtained from your Amiga/PC dealer.

For further information please contact:
Perth: 622 Newcastle St. Leederville, WA 6007
Ph. (09) 328 9799, Fax (09) 227 7324
Melbourne: Ph (03) 648 0366 Fax (03) 510 1569

JCL

Distributed in Australia by Computamart